THE WESTERN STATES.

OHIO.

AKRON,
CANTON,
CHILLICOTHE,
CINCINNATI,
CLEVELAND,
COLUMBUS,
DAYTON,
HAMILTON,
PORTSMOUTH,
SANDUSKY,
SPRINGFIELD,
STEUBENVILLE,
TOLEDO,
YOUNGSTOWN,
ZANESVILLE.

INDIANA.

EVANSVILLE,
FORT WAYNE,
INDIANAPOLIS,
LA FAYETTE,
NEW ALBANY,
RICHMOND,
SOUTH BEND,
TERRE HAUTE.

ILLINOIS.

AURORA,
BELLEVILLE,
BLOOMINGTON,
CHICAGO,
GALESBURG,
JACKSONVILLE,
JOLIET,
PEORIA,
QUINCY,
ROCKFORD,
ROCK ISLAND,
SPRINGFIELD.

MISSOURI.

HANNIBAL,
KANSAS CITY,
SAINT JOSEPH,
SAINT LOUIS.

MICHIGAN.

BAY CITY,
DETROIT,
EAST SAGINAW,
GRAND RAPIDS,
JACKSON,
KALAMAZOO,
MUSKEGON

WISCONSIN.

BELOIT,
EAU CLAIRE,
FOND DU LAC,
LA CROSSE,
MADISON,
MILWAUKEE,
OSHKOSH,
RACINE.

MINNESOTA.

MINNEAPOLIS,
SAINT PAUL,
WINONA.

IOWA.

BURLINGTON,
CEDAR RAPIDS,
COUNCIL BLUFFS,
DAVENPORT,
DES MOINES,
DUBUQUE,
KEOKUK.

NEBRASKA.

LINCOLN,
OMAHA.

KANSAS.

ATCHISON,
LAWRENCE,
LEAVENWORTH,
TOPEKA.

COLORADO.

DENVER,
LEADVILLE.

CALIFORNIA.

LOS ANGELES,
OAKLAND,
SACRAMENTO,
SAN FRANCISCO,
SAN JOSÉ,
STOCKTON.

OREGON.

PORTLAND.

UTAH TERRITORY.

SALT LAKE CITY.

OHIO.

AKRON,

SUMMIT COUNTY, OHIO.

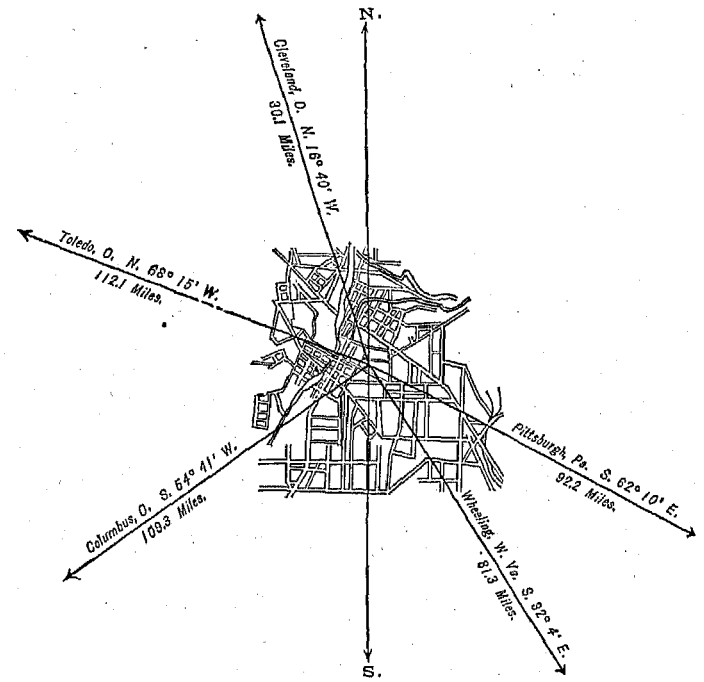
POPULATION

IN THE

AGGREGATE,

1850-1880.

	Inhab.
1790	
1800	
1810	
1820	
1830	
1840	
1850	3,266
1860	3,477
1870	10,006
1880	16,512



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	8,228
Female	8,284
Native	12,901
Foreign-born	3,611
White	16,231
Colored	*281

* Including 3 Chinese.

Latitude: 41° 5′ North; Longitude: 81° 32′ (west from Greenwich); **Altitude: 793** to **1,123 feet.**

FINANCIAL CONDITION:

Total Valuation: $7,316,182; per capita: $443 00. Net Indebtedness: $17,619; per capita: $107 00. Tax per $100: $2 25.

HISTORICAL SKETCH.

In the year 1825, as soon as the Ohio canal was located, General Simon Perkins and Paul Williams laid out a town in Portage, Portage county, Ohio, at the highest point along the line of the canal between the Ohio river and lake Erie, to which they gave the appropriate name of "Akron," from the Greek word meaning "summit." This was the beginning of Akron proper; but the present city contains parts settled before 1825, as Middlebury, now the sixth ward, was founded in 1818, and settlers were located on some of the territory now included in Akron as early as 1802. The work of building the Ohio canal was begun at Licking Summit on July 4, 1825, and in September

following ground was broken at Akron. The canal was completed to Akron in 1827, and a boat cleared from there for Cleveland July 4; but the entire work was not finished until 1832. In that year the Pennsylvania and Ohio canal was extended to Akron, and, connecting there with the Ohio canal, linked the canal systems of Ohio and western Pennsylvania. These two inland water-ways gave the town its first importance; but it was the enterprise of Eliakim Crosby, one of the citizens, which placed at its command the means of future eminence. In 1831 Crosby conceived and executed the design of bringing the Little Cuyahoga river from Middlebury to Akron, and thus supplied the town with the fine water-power to which its present manufacturing prosperity is almost entirely due.

Akron was incorporated as a town in 1836, and five years later was made the county seat of Summit county, which had been organized by the legislature in 1840. The county is rich in deposits of coal, and contains large beds of clay suitable for all kinds of coarse pottery and fire-brick. Akron was soon busily engaged in working these clays, and laid the foundation for the present extensive manufactures of stoneware and fire-brick which have made the name of Akron familiar throughout America.

The Atlantic and Great Western railway reached the town in 1852, and gave a great impetus to its manufactures. Its natural and acquired advantages became at once apparent with the increased facilities of transportation, and in the following ten years many new industries were introduced, which have proved valuable additions to its wealth. The town early earned an enviable reputation for its manufactures of flour; but this fame is now entirely overshadowed by the renown of its establishments for the manufacture of agricultural implements, as well as of sewer-pipe and all kinds of stoneware, and of oatmeal. A capital of $6,127,250 is invested in manufactures, which, during the past year, furnished employment to 4,163 workmen and produced finished goods valued at $9,313,451. The manufacturing interests of Akron have not claimed all the energies of the citizens. The schools, churches, and societies have received their share of attention. In 1867 a few gentlemen organized a library association and started a library, which, after a few years of successful operation, they presented to the city, on condition that it be made free and not less than $3,000 be spent annually in its maintenance and improvement. The gift was accepted, and Akron now has a library of over 7,000 volumes, open freely to all who choose to use it. In 1870 the Ohio Universalist convention determined to found a college, and offered to locate it in Akron if the sum of $60,000 should be raised and presented to the convention. Steps were taken to raise the necessary amount, and in 1871 work was begun on the college building. The public schools of the city are in a flourishing condition, and it has 16 churches, many of which have beautiful edifices. Akron, which was incorporated as a city in 1865, has had more than its share of misfortunes, large fires in 1848, 1849, 1851, 1854, 1855, 1856, 1857, 1872, and 1878 sweeping over it and destroying large amounts of property; but after each calamity the city has sprung up to an increased prosperity.

AKRON IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Akron:

LOCATION.

Akron is situated in latitude 41° 5′ north, and longitude 81° 32′ west from Greenwich, in nearly the center of Summit county, Ohio, about 36 miles south of Cleveland, and 110 northeast of Columbus. The highest point is 1,123 feet, and the lowest 793 feet above the sea-level. The Ohio canal, extending from Portsmouth, on the Ohio river, to Cleveland, on lake Erie, passes through the city, within the immediate vicinity of which it has 21 locks. This canal still does a large business in carrying lumber, coal, stone, and other heavy freight.

RAILROAD COMMUNICATIONS.

Akron is touched by the following-named railroads:

The New York, Pennsylvania, and Ohio railroad (formerly the Atlantic and Great Western), termini, Salamanca, New York, and Dayton, Ohio.

The Cleveland, Mount Vernon, and Columbus railroad, termini, Hudson and Columbus.

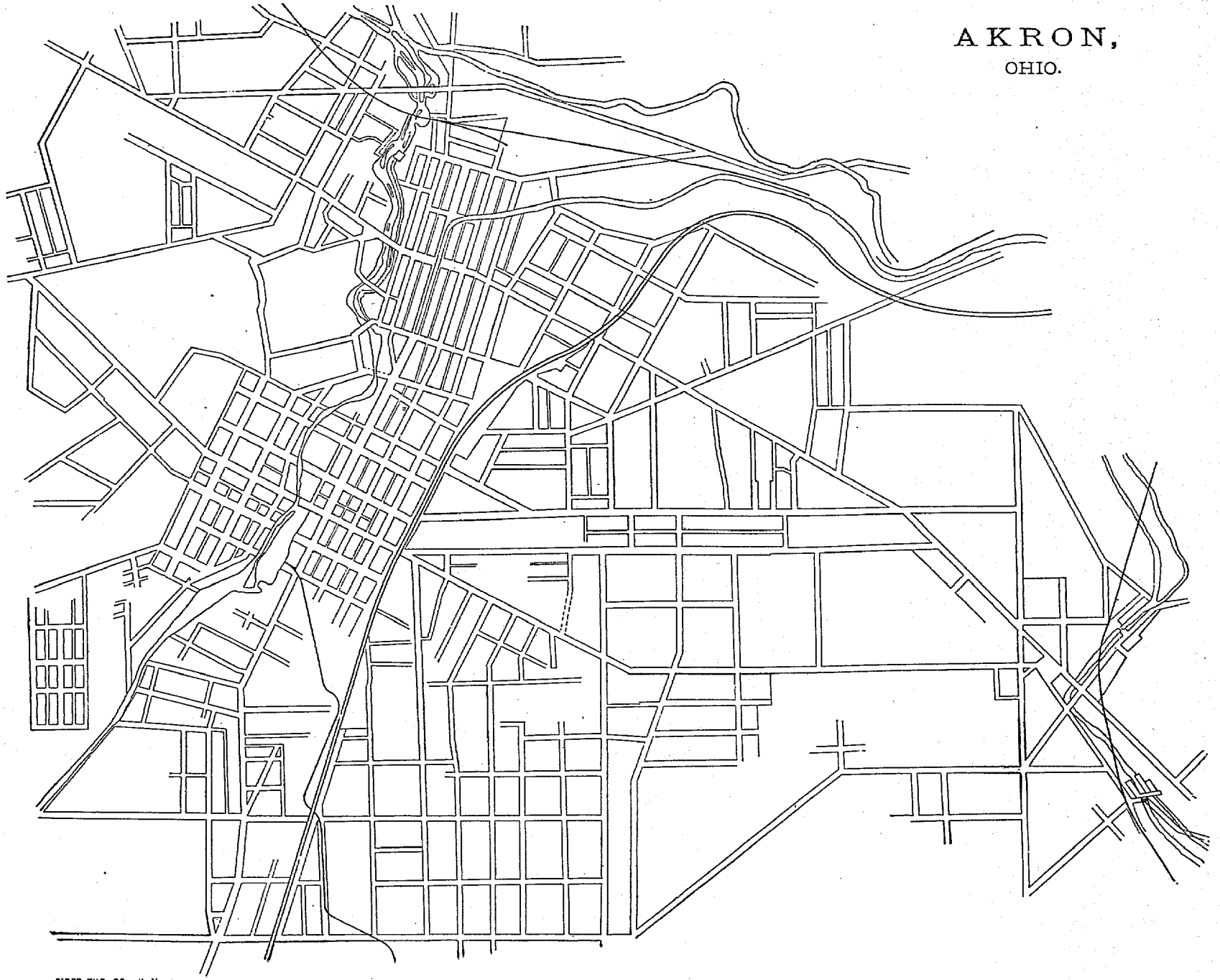
The Valley railroad, termini, Cleveland and Canton.

These railroads pass through the city, and connect it closely with the cities of Ohio and the mineral deposits of the surrounding country.

TRIBUTARY COUNTRY.

The country tributary to Akron is rich and varied in its productions. On all sides farming is general; wheat, fruit, dairy products, and stock-raising claiming most of the farmers' attention. To the south are large coal-fields, which are extensively mined, and to the east large deposits of clay, from which stoneware, sewer-pipe, and coarse pottery are manufactured. The city owes much of its prosperity to the richness of the country tributary to it.

AKRON,
OHIO.



MOSS ENG. CO., N. Y.

TOPOGRAPHY.

The city is situated at the highest point along the line of the Ohio canal, and is about 500 feet above the level of lake Erie. The surface is very much diversified, variations in level of 330 feet occurring within the corporate limits. The soil is a sandy loam, with occasional small areas of clay, underlaid with sandstone, shale, fine and coarse sand, and clays of various kinds. A portion of the city is underlaid by thick beds of stratified sand and gravel, containing angular blocks of conglomerate and many fragments of coal. There are many lakes in the vicinity. Summit lake, a body of water a mile long and half as wide, lies about 1½ mile south of the city, and furnishes a considerable water-power. There are also a few small marshes. The natural drainage is excellent, as the city stands on the water-shed between the Ohio river and lake Erie, one stream from Summit lake flowing to the former and one to the latter. The forests once covering the region have been largely cut off, but considerable timber still stands upon some of the farms. The soil within a radius of 5 miles is generally a rich sandy loam, with occasional small beds of clay.

CLIMATE.

The variations in temperature are large, the highest recorded temperature being 100° and the lowest —33°; but the average years show a range between 97⅞° in summer and —13⅝° in winter. The winds from lake Erie tend to keep the climate much warmer than it otherwise would be. The country for miles around is not much different in its elevation from that of the city, and affords it no protection from the chilling winds.

STREETS.

The total length of the streets is about 75 miles. Only little more than 2 miles are paved; of these, 750 feet are paved with stone blocks, 900 feet with broken stones, 9,600 feet with Nicholson pavement, and 1,900 feet with gravel. The cost of each of these per square yard is as follows: Stone blocks, $1 60; broken stone, 70 cents; wood, $2 25; and gravel, 35 cents. The Nicholson pavement is worn out and must soon be replaced, and the streets are in general badly kept. The sidewalks are of plank, brick, or stone; the gutters mostly of cobble-stones. Trees are planted by the property-owners along the streets in front of their lots, on the lawns between the walks and the curbing. The work of the construction of streets is done by contract; repairing by day labor. The mayor reports that there are no available data of the annual cost of street work. Both a steam-crusher and a roller are used on the streets with excellent results. There are no horse-railroads and no omnibus lines.

WATER-WORKS.

Works for a public water-supply are being built by a private company at a cost of $220,000. Water is taken from a well and pumped into a reservoir 220 feet above the average level of the city, and the mains will be supplied partly from the reservoir and partly from direct pumping into the pipes. The pressure will be about 86 pounds to the square inch. The pumps are of the Worthington manufacture, and pump, on the average, 200,000 gallons daily.

GAS.

The city is supplied with gas by a private corporation, which charges private persons $2 50 per 1,000 feet. Owing to an alleged violation of its contract with the gas company, the city uses no gas street-lamps, but lights its streets with coal-oil.

PUBLIC BUILDINGS.

The public buildings are valued at about $30,000, and include a city building, which cost $17,000, and contains the various municipal offices, an armory, a city prison, and an engine-house for the fire department.

PUBLIC PARKS AND PLEASURE-GROUNDS.

The total area of the parks of Akron, which are seven in number and vary in size from 1 to 10 acres, is 25 acres. They are finely laid out in walks and drives, and shaded by trees which were growing there when the town was laid out. The parks were donated by the original proprietors of the town, and have cost only a small sum for improvements. About $500 is annually expended in their maintenance. *Fountain Park*, a picturesque tract of about 50 acres, mostly within the limits of the city, belongs to the Summit County Agricultural Society, but is largely used by the people of Akron as a pleasure-ground. The parks are controlled by the city council through a board of park commissioners.

PLACES OF AMUSEMENT.

Akron has only one theater, the Academy of Music, which has a seating capacity of 850. Phœnix hall, seating 450; Kaiser's hall, seating 400; and Music hall, seating 350, are used as concert- and lecture-rooms. The city ordinances require a license of $3 for all theatrical performances, except minstrel shows, which pay $5.

DRAINAGE.

In March, 1880, plans were adopted for a regular system of sewerage to embrace the entire city. Prior to that time only a few drains had been laid, and they were only for storm-water. The principal outfall is to the Little Cuyahoga river. The mouth of the main sewer is above water, and fully exposed; but the plan contemplates a small outlet for the ordinary flow, and proposes to close the mouth of the large storm-sewer by a hinged flap. The ventilation of the main sewer is described as being through manholes, but communication with the outside air is only through a box filled with charcoal, placed in a chamber built for the purpose between the manhole and the sewer. The cost of the sewers is assessed upon the abutting property, on the basis of benefits. In the case of the larger and more expensive works such assessments are laid in the same manner to an amount not exceeding $2 per foot front, and the remaining cost, above the amount so realized, is assessed upon the whole area to be drained by the main sewer.

No information is furnished of the cost and extent of sewers, except that the average cost of each inlet-basin is $50 and of each manhole $80. The average depth is 13 feet.

CEMETERIES.

Akron has five cemeteries, as follows:

Akron Rural Cemetery, 53 acres, is situated in the northwestern part of the city, and was founded in 1839. It is managed by a private corporation, consisting of the owners of lots, and is beautifully laid out. Among its ornaments is a fine chapel, dedicated May 30, 1876, as a memorial to the citizens of Akron who lost their lives during the civil war. There have been 3,518 interments in this cemetery.

German Catholic Cemetery, area 4 acres, joins the Rural cemetery. It was opened in 1866.

Irish Catholic Cemetery, area 4½ acres, is situated in the extreme northwest corner of the city, and has been in use only a few years.

German Reformed Cemetery is located beyond the city limits, to the north, and was opened during the present year. It contains about 10 acres.

Sixth Ward Cemetery, area 8 acres, is situated in the southeastern part of the city, and was opened in 1853.

All these cemeteries are managed by private corporations or by churches. There are no ordinances regarding the burial of the dead; each of the cemeteries has its own rules. All of them require graves to be made at least 5 feet deep. The use of vaults is discountenanced, owing to the close proximity of the cemeteries to the inhabited districts, and there is but one public vault in the city.

MARKETS.

There are no public or corporation markets in Akron.

SANITARY AUTHORITY—BOARD OF HEALTH.

The city has no board of health, and up to the present time has made no ordinances regarding sanitary matters. The advisability of creating a board of health is now under consideration, and it is probable that one will soon be organized, and given ample authority for the preservation of the public health.

MUNICIPAL CLEANSING.

Street-cleaning.—The citizens are expected to sweep the streets in front of their premises and place the dirt and rubbish in piles, ready for removal by the city teams, which are expected to remove the accumulations once a week in the business portion of the city, and as occasion may require on the other streets, and carry the sweepings to the various ravines which need to be raised to the city grade. The mayor thinks the work, which is done entirely by hand, is fairly well done. No separate account of the cost of the work to the city is kept.

Removal of garbage and ashes.—Garbage and ashes are removed by the householders, no special regulations governing the matter. Garbage is usually buried, while ashes are deposited in places that need to be filled up.

Dead animals.—In case any animal dies within the city, the owner, if known, is compelled to remove the carcass and bury it; if the owner is not known the work is done by the city marshal at the expense of the city.

Liquid household wastes.—The liquid household wastes are either run into cesspools, or simply thrown upon the surface of the ground, only very little running into the public sewers, which are in an unfinished condition. The cesspools are porous, being simply holes dug in the ground to hold the wastes until they can be absorbed. There are no rules regulating their construction or the manner in which they shall be cleansed.

Human excreta.—Almost all of the houses depend on privy-vaults, only a few of which are water-tight. No regulations govern their construction or cleansing. The dry-earth system is used to a slight extent. The night-soil is generally disposed of by either burying it in deep trenches, or throwing it into the Cuyahoga river outside the city limits. It is used to a slight extent as manure, sometimes, though not often, on the gathering-ground of the public water-supply.

Manufacturing wastes.—There is no system for the disposal of manufacturing wastes.

POLICE.

The police force is appointed by the mayor and confirmed by the city council. The chief executive officer is the city marshal, salary $700 per annum, who has the general supervision of the force and the execution of the orders of the city council. The rest of the force consists of 10 patrolmen, at $600 per annum each. The uniform is a blue cloth suit, stiff, round-crown, felt hat, with wreath and number on the front, and a police badge. The men furnish their own uniforms. The patrolmen are equipped with a club, revolver, chain twisters, and police whistle, and are on duty 12 hours daily, alternately day and night.

During the past year there were 804 arrests made, the principal causes being for drunkenness and disorderly conduct. During the year 43 station-house lodgers were accommodated, as against 143 in 1879. Free meals are furnished to these lodgers at an annual cost of about $20. Special policemen are appointed by the mayor when he thinks necessary, and while on duty they receive the same pay and are treated in the same manner as members of the regular force. In a general way the police are required to co-operate with the other departments of the city government. The cost of the police force in 1880 was about $7,000.

CANTON,

STARK COUNTY, OHIO.

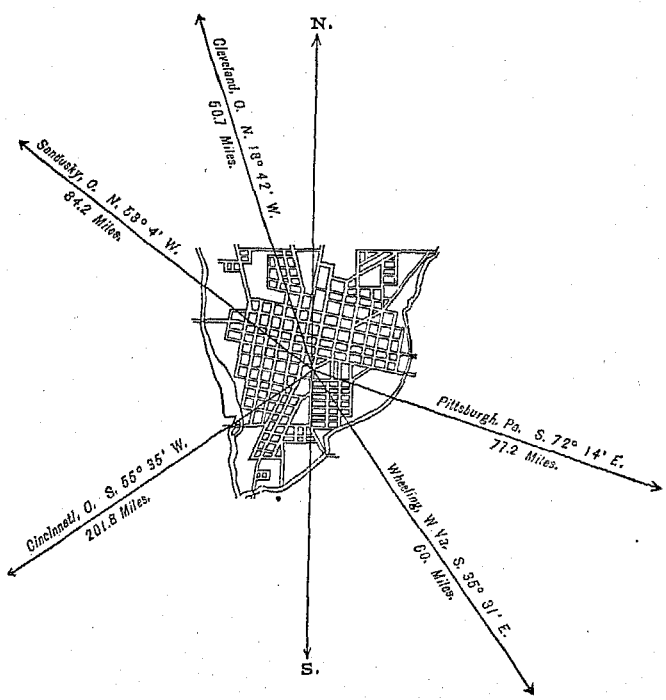
POPULATION

IN THE

AGGREGATE,

1850-1880.

	Inhab.
1790	
1800	
1810	
1820	
1830	
1840	
1850	2,603
1860	4,041
1870	8,660
1880	12,258



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	6,071
Female	6,187
Native	10,315
Foreign-born	1,943
White	12,218
Colored	40

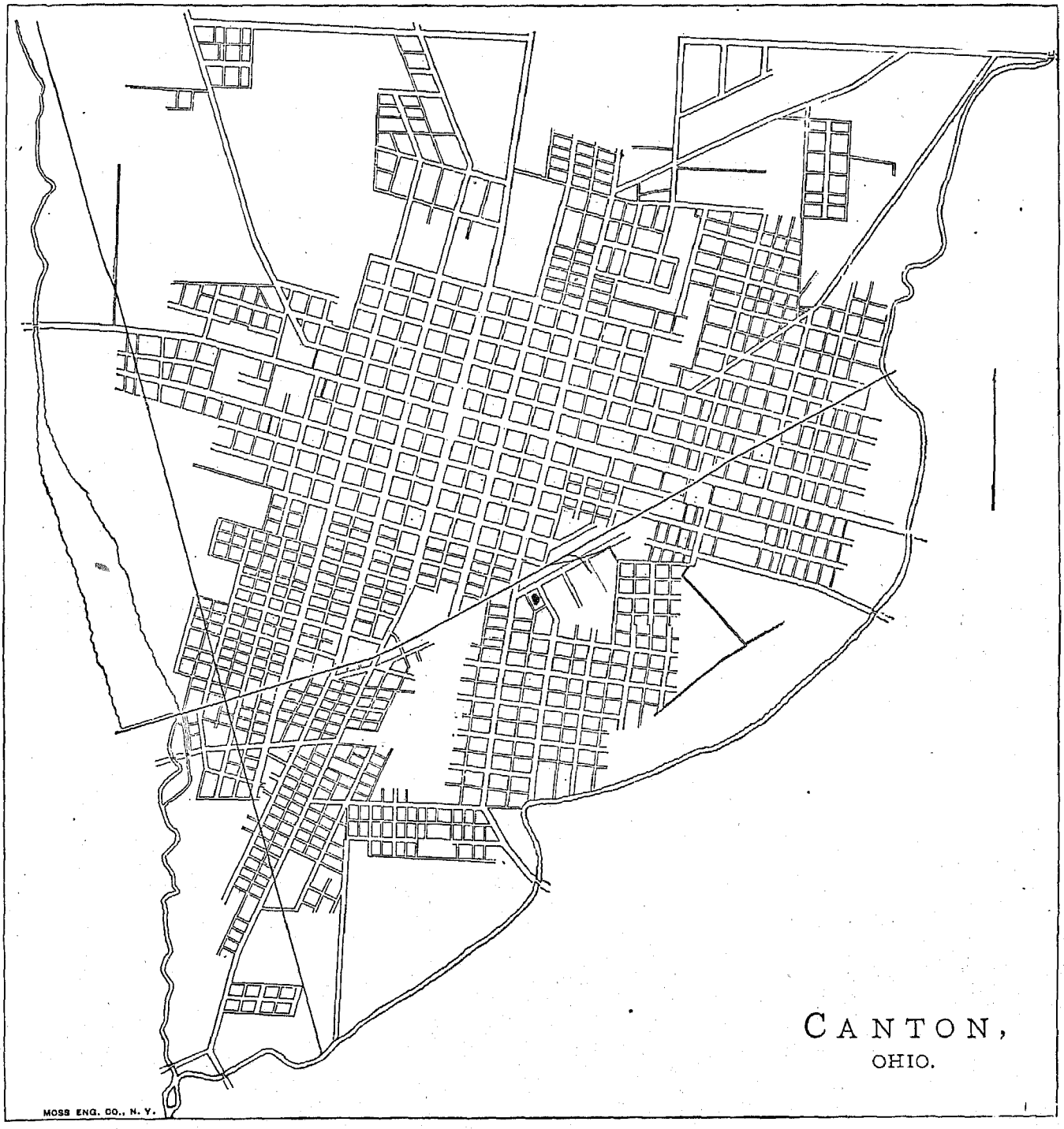
Latitude: 40° 48′ North; Longitude: 81° 23′ (west from Greenwich).

FINANCIAL CONDITION:

Total Valuation: $5,056,070; per capita: $412 00. Net Indebtedness: $180,657; per capita: $14 74. Tax per $100: $2 14.

CANTON.

NOTE.—Canton, the capital of Stark county, Ohio, is situated at the confluence of the east and west branches of Nimishillen creek, and is on the line of the Pittsburgh, Fort Wayne, and Chicago railroad. The Connotton Valley railroad, from Dell Roy, Ohio, terminates here. Coal is abundant in the vicinity, and the city derives its prosperity chiefly from its manufactures, especially the manufacture of agricultural implements. The surrounding country is very rich agriculturally. The city is supplied with water from a lake 3 miles northwest of the place by means of a Holly engine. No detailed information or statistics of any kind were furnished, and therefore no report on the present condition of the city can be made.


CANTON,
OHIO.
MOSS ENG. CO., N. Y.

CHILLICOTHE,

ROSS COUNTY, OHIO.

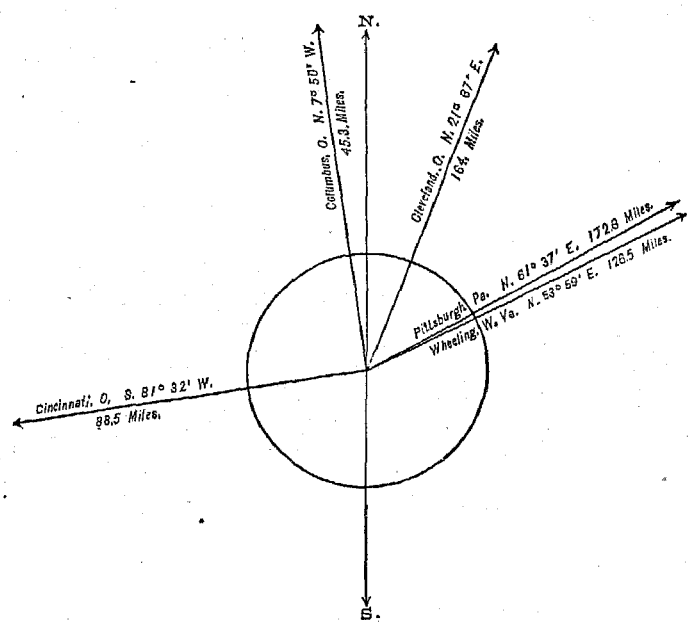
POPULATION

IN THE

AGGREGATE,

1850-1880.

	Inhab.
1790	.....
1800	.....
1810	.....
1820	.....
1830	.....
1840	.....
1850	7,100
1860	7,626
1870	8,920
1880	10,938



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	5,283
Female	5,655
Native	9,295
Foreign-born	1,643
White	9,983
Colored	* 955

* Including 1 Chinese.

Latitude: 39° 18′ North; Longitude: 82° 52′ (west from Greenwich).

FINANCIAL CONDITION:

Total Valuation: $4,732,745; per capita: $433 00. Tax per $100: $1 89.

HISTORICAL SKETCH.

Chillicothe, the capital of Ross county, Ohio, was founded in 1796 by emigrants from Virginia and Kentucky, and in 1800 it became the seat of the state government. The convention which formed the constitution of Ohio met here in November, 1802, and the sessions of the state legislature were held in Chillicothe until 1810, when the seat of government was moved to Zanesville.

CHILLICOTHE IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Chillicothe:

LOCATION.

Chillicothe is situated on the right bank of the Scioto river, about 45 miles below Columbus and the same distance above Portsmouth, the Scioto at the latter place entering the Ohio river. The river at this point is not navigable. The city is situated on a plain, partly inclosed by verdant and cultivated hills 500 feet high. Paint creek flows along the south side of the city and enters the river 3 miles below. The Ohio canal, from Portsmouth to Cleveland, Ohio, passes through the place. Chillicothe is the center of trade in the populous valley of the Scioto—one of the best farming regions in the country.

RAILROAD COMMUNICATION.

Chillicothe is touched by the following-named railroads:

The Dayton and Southeastern railroad, from Dayton to Wellston, Ohio, and by connecting roads with all points east and west.

The Marietta and Cincinnati railroad, between the points named, included in the Baltimore and Ohio Railroad system.

The Scioto Valley railroad, from Columbus to Portsmouth.

STREETS.

There are 22 miles of streets in the city, all of which are paved with gravel. The sidewalks are principally of brick, but many are laid with sandstone, from 8 to 15 feet wide. Some sidewalks are laid in brick, 4 feet wide, with a grass plat on either side of the same width. All the gutters are of cobble-stones, 8 inches deep and 5 feet wide. Tree-planting in the streets is universal, they being set only at the curb-line; one street, however, has four rows of trees. The construction and repair of streets are done by day work. There are 2 miles of horse-railroads in the city, using 7 cars and 14 horses, and carrying passengers at 5 cents for each fare. The omnibus lines have 6 vehicles and 12 horses, and give employment to 8 men. The rate of fare is 25 cents, and during the year 21,900 passengers were carried.

WATER-WORKS.

The works for the water-supply are now in process of construction by the city.

GAS.

The gas-works are owned by a private company. The charge to consumers is $2 40 per 1,000 feet. The city pays for 139 street-lamps.

PUBLIC BUILDINGS.

The total cost of municipal buildings belonging to the city is $25,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

With the exception that the parks have a total area of 50 acres, and cost $10,000, no information on this subject was furnished.

PLACES OF AMUSEMENT; DRAINAGE.

No information on these subjects was furnished.

CEMETERIES.

Chillicothe Cemetery, area 50 acres; *Township Cemetery*, area 4 acres; *Roman Catholic Cemetery* (Irish), area 2 acres; and *Roman Catholic Cemetery* (German), area 2 acres, are used for interments. There are also 1 Methodist grave-yard, but little used, and 1 Catholic grave-yard, in which burials are no longer made. No permits are required for interments. Chillicothe cemetery is the only one of the above that is public.

MARKETS.

There are no public or corporation markets in the city.

SANITARY AUTHORITY.

There is no board of health in Chillicothe. The city council attends to the sanitary needs of the city, and can make such rules and expend such sums as may appear necessary. When nuisances are reported they are abated by the city marshal. There is no pest-house. Vaccination is not compulsory, but it is done at the public expense when deemed necessary.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned by the city, at its own expense and with its own force. The work is done wholly by hand. The streets are cleaned twice a year, and the work is reported as being well done. The annual cost is about $2,500, and the sweepings are carted off.

Removal of garbage and ashes.—The householders remove their own garbage and ashes. There are no regulations as to the conservancy of garbage while awaiting removal, and it, as well as the ashes, is carted out of the city. The cost of the service is not given. It is stated that no injury to health results from either the manner of removal or disposal of the garbage.

Dead animals.—The carcasses of all animals dying within the city are removed by the city marshal, if the owners do not do it.

Liquid household wastes and human excreta.—Most of the liquid household wastes in the city are thrown into vaults and cesspools, but little going into the public sewers, and only a small portion into the street-gutters. The cesspools are nominally water-tight, have no overflows, and receive the wastes from the few water-closets there are in the city. Nearly all the houses in the city depend on privy-vaults. These must be not less than 6 feet nor more than 12 feet deep, and none of them are reported as even nominally water-tight. The manner of cleansing them or the final disposition of the night-soil was not stated.

Manufacturing wastes are run either into the river or the creek.

POLICE.

The police force of Chillicothe is appointed by the mayor, subject to the confirmation of the city council, and is governed by the mayor. The executive officer is the chief of police, salary $730 per annum, and he has command of the force, under direction of the mayor. The remainder of the force consists of 8 regular policeman, salary $1 75 per day each, and 4 reserve policemen at $1 25 per day each. The latter are called on duty only occasionally. The uniform is of dark-blue cloth, and each man provides his own, at a cost of $23 per annum. The policemen are equipped with clubs only; their hours of duty are from 6 p. m. to 6 a. m., and they patrol 20 miles of streets. During the past year 350 arrests were made by the force, and the cause of four-fifths of these arrests was intoxication. The cases were disposed of either by fines of from $1 to $50, or by imprisonment of from 5 to 30 days. The force is required to co-operate with the fire department only in a general way. Special policemen are appointed by the mayor for temporary service. The yearly cost of the police force is about $6,000.

CINCINNATI,

HAMILTON COUNTY, OHIO.

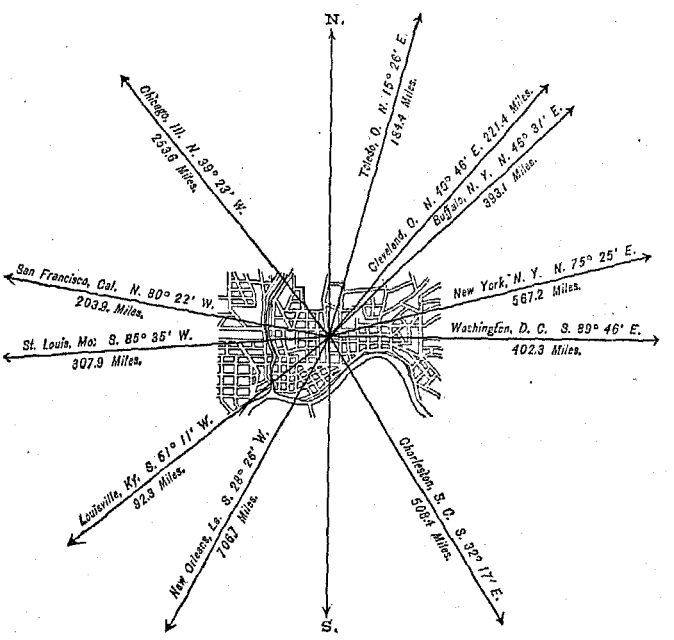
POPULATION

IN THE

AGGREGATE,

1810-1880.

	Inhab.
1790	.....
1800	.....
1810	2,540
1820	9,642
1830	24,831
1840	46,338
1850	115,435
1860	161,044
1870	216,239
1880	255,139



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	125,492
Female	129,647
Native	183,480
Foreign-born	71,659
White	246,912
Colored	*8,227

*Including 38 Chinese and 10 Indians.

Latitude: 39° 6′ North; Longitude: 84° 30′ (west from Greenwich); **Altitude: 440 to 904 feet.**

FINANCIAL CONDITION:

Total Valuation: $169,305,635; per capita: $664 00. Net Indebtedness: $21,992,500; per capita: $86 20. Tax per $100: $2 91.

HISTORICAL SKETCH.(a)

At the close of the Revolutionary war it was found that but six of the thirteen American states had well-defined boundaries. The rest laid claim to lands running west to the Pacific ocean, and in many cases the same territory was covered by two or more of the charters on which these claims were based. To complicate the question, the states that had none of these unappropriated lands denied the exclusive right of their sister states to them, maintaining that their claim was unjust and inequitable. They contended that as the war had been sustained and the independence of the country acquired by the blood and treasure of all the states, whatever had

a Prepared by Robert Luce, esq.

been conquered from the crown belonged to them in common as a matter of right, and should be held for their joint and equal benefit. So great an excitement sprang up over this subject that propositions were made in the public prints of the day urging the destitute states to seize on portions of these lands for their own benefit. To allay the ferment, Congress made strong appeals to the sense of justice and the patriotism of the states holding the claims to make liberal cession, which they were generous enough to do.

The territory now embraced in the state of Ohio was covered by the claims of four states—Massachusetts, Connecticut, New York, and Virginia. Massachusetts and New York ceded their rights unconditionally. Connecticut ceded jurisdiction but retained the title in that district on lake Erie known as the "Western Reserve of Connecticut". In the cession made by Virginia, March, 1784, the lands north of the Ohio river, between the Scioto and the Little Miami, were reserved for satisfying legal bounties to their troops in case certain lands to the south of the Ohio should be insufficient.

There yet remained other titles to be extinguished—those of the real owners of the land, the Indians. During the late war the Indians had generally sided against the colonists, and after its termination they seemed disposed to continue hostilities. Various expeditions were sent against them, and they were brought into some degree of subjection. On the 21st of January, 1785, by a treaty concluded at fort McIntosh, they ceded to the United States the lands watered by the Muskingum, Scioto, Little Miami, and Great Miami rivers. By this treaty, and by other treaties, the Indian title to a large part of the territory within the present state of Ohio was extinguished.

Congress at once made the necessary preparations for the survey and sale of these lands, and a new impulse was given to the emigration to the West which has since continued so constantly, and which has assumed such mammoth proportions.

After the Revolutionary war, General Washington, in parting with the Revolutionary officers, received from General Rufus Putnam a petition from 243 officers of the army, mostly those of New England, asking his influence with Congress to secure to them lands between the Ohio river and lake Erie. Putnam was clear-sighted enough to prophesy that this region "would be filled with inhabitants, and thereby free the Western territory from falling under the dominion of a foreign power". After Congress had finally got control of this country, General Putnam had the honor of leading the first band of settlers that penetrated it. This company, known as the New England Ohio Company, reached the mouth of the Muskingum river in the spring of 1788, and began the settlement of their purchase at Marietta.

The ordinance of the 13th of July, 1787, authorizing the board of treasury to contract with any applicants for lands in the territory northwest of the Ohio river, was accepted in that same year by the Ohio company just mentioned, and by another body composed of such as could be enlisted for this sort of enterprise from among the inhabitants of the country immediately west of New England, principally citizens of New Jersey, foremost among whom was John C. Symmes. This gentleman, who had been a delegate to Congress from New Jersey, was then holding a conspicuous judicial position in that state, and was subsequently appointed one of the three judges of the Northwest territory.

The latter of these associations aimed at the acquisition of the next eligible tract to that chosen by the first-mentioned one. It was farther down on the Ohio river, and was separated from the other mainly by what was known as the Virginia military district or reservation, which it bounded on the west. It was thought to be a tract unsurpassed in its inviting character.

Judge Symmes petitioned Congress, August 29, 1787, that there be sold to him the tract of land fronting on the Ohio, bounded on the east and west, respectively, by the Little Miami and Great Miami rivers, and running back to a certain line, which Symmes thought would give him about 2,000,000 acres. Subsequent measurements reduced this figure to 600,000. But though the negotiation for the portion of territory upon which those joining in this interest had fixed their aim was begun, and some sales of shares and of warrants for locations within its expected limits were made in 1787, it was not until late in 1788, and after the preliminary steps had been taken for entering into possession by the first companies of colonists, that there was any formal execution of an agreement with the commissioners of the treasury, or a conclusion as to the boundaries to be stated in the conveyance. The commissioners, indeed, manifested a strong disposition utterly to repudiate the claim of Judge Symmes to any contract whatever with them, even after he had gone on his way to the promised land, like Abraham, with a cumbrous train. This he had done in the latter part of July, 1788, setting out from New Jersey with a retinue of fourteen four-horse wagons and sixty persons. His route was by way of Pittsburgh and Wheeling, the journey from the latter place being made by water. The Miami country was reached September 22, 1788.

Meanwhile Congress had heard of this expedition; and as no agreement had yet been concluded, that body feared that Symmes meant to seize and hold this land without more ado. Under this impression Congress came near repudiating all that they had done, when some of the company who were in Washington heard of it and barely succeeded in preventing such action by entering into a contract in Symmes' name, dated October 15, 1788, by which the price paid for the land was two-thirds of a dollar per acre, one-seventh of which was payable in United States military land warrants.

By the plan adopted by Symmes in 1787, he set apart for his own use and benefit the entire township lying farthest down in the point formed by the Ohio and Great Miami rivers, together with the three fractional townships

lying northwest and south, between it and those rivers, estimated to contain 40,000 acres. He engaged with his associates to pay for that land himself, and they consented that he should hold and dispose of it for his own benefit. They had the privilege of selecting as much of the residue of the purchase as they saw proper, and the community at large were invited to become associates and to locate as much of the land as they desired at the contract price. To induce them to do so without loss of time, it was stated that after the 1st of May then next, the price of the land would be $1 per acre, and that it would be still further increased as the settlement of the country should justify. It was, however, expressly stipulated that all the money received above the congressional price should be laid out in opening roads and erecting bridges for the benefit of all the purchasers.

Judge Symmes, we have seen, reached his purchase in the latter part of September, 1788. After an unsatisfactory attempt to explore it he returned to Limestone, and here he made his headquarters for the next few months, sending down as opportunities offered detachments of surveyors and others to prepare his way. With the corps of surveyors sent out November 25 ventured Benjamin Stites, to the place where his flag was to fly, at the mouth of the Little Miami. He had been the first to make and was the first to enter upon a purchase. He immediately erected two or three block-houses on the low grounds, and conferred upon it the name of Columbia. Under this name the place, or rather an extension of it back on higher grounds, continued to exist as a small village, with nothing particularly noteworthy to mark its fortunes until it was merged in the outgrowth from the second point on the purchase to be settled, the present city of Cincinnati, the process of absorption having been consummated within the last decade.

The second point to be settled on the purchase was on the bank of the Ohio opposite the mouth of the Licking. Of this spot Matthias Denman, of Springfield, New Jersey, had either secured the refusal or made purchase, it does not clearly appear which, some time shortly after Symmes formed his company. In the summer of 1788 he came out to see the lands he had bought and to examine the country. At Limestone he met Colonel Robert Patterson and one John Filson, each of whom he induced to take a third interest in his land. To this last-named gentleman was due the wonderful name that was given to the town they intended to found—"Losantiville", compounded of "os", Latin for mouth, "anti", Greek for opposite, "ville", French for city, and the initial "l", which stood for Licking—the whole meaning "city opposite mouth of Licking".

Filson's death caused the surviving partners to postpone for a while their plans of starting a town on their land, and they returned to Limestone with Symmes after his first visit to the Miami country. It was while returning to the Ohio from Symmes' exploring party that Filson met his death. At Limestone another man, Israel Ludlow, was found to take Filson's place, and the rest of the fall was spent in making a new plat of the proposed town and in making the necessary preparations for settling it.

On the 24th of December Patterson and Ludlow, with 24 others, left Limestone for their new homes. They were greatly incommoded by the floating ice that filled the Ohio from shore to shore, and the exact date of reaching their destination is unknown. It has generally been supposed that it was December 28, 1788, and therefore that day has usually been celebrated as the date of the founding of Cincinnati. Three or four log cabins were at once erected, the first of which was located on Front street, east of and near Main street. In the course of the following January were completed the survey and laying off of the town, then covered with sycamore and sugar trees on the first or lower table, and beach and oak on the upper or second table. Through this dense forest the streets were laid out, their corners being marked upon the trees. This survey extended from Eastern row, now Broadway, to Western row, and from the river as far as Northern row, now Seventh street. The population of the place not long afterward was said to consist of 11 families, besides 24 unmarried men, dwelling in about 20 cabins, mostly adjacent to the present landing.

On the 29th of January the third branch of the original company left Limestone for the mouth of the Great Miami, led by Judge Symmes himself, accompanied by his family and a portion of a company of troops. On the 2d of February he disembarked at North Bend, about 6 miles above his destination, the waters being too high to warrant his going farther down the point. Here he founded what he intended to be the capital of the purchase and the metropolis of the surrounding country.

At this period an abundant supply of game and fish made good the failure of the provisions brought by the settlers. Although the Indians were unfriendly, Losantiville at least did not then suffer from their hostilities or depredations. They were, however, often seen hovering about the settlements, and began to annoy many of the settlers by stealing their horses and destroying their cattle. They killed, during the spring, several of a surveying party and five or six soldiers at North Bend. This hostile spirit of their savage neighbors so alarmed the settlers that they strengthened their little garrison, and resorted to every means of security in their power.

About the 1st of June, 1789, Major Doughty arrived at Losantiville with 140 men from fort Harmar on the Muskingum, and built four block-houses nearly opposite the mouth of the Licking. When these were finished he laid off a lot of 15 acres east of Broadway, extending from the brow of the upper bank to the river, as a lot on which to erect fort Washington. The fort was immediately begun, and was finished by November. It was a simple fortification of logs hewed and squared, of a square form, each side about 180 feet in length, formed into barracks two stories high. Extending along its whole front was a fine esplanade about 80 feet wide, and inclosed with a handsome paling on the brow of the bank, the descent from which to the lower bottom sloped about 30 feet. General Harmar arrived with 300 men and took possession of it on the 29th of December.

The three principal settlements of the Miami country were begun in the manner above described. Although they had one general object, as Burnet says in his notes, and were threatened by one common danger, yet there existed a warm spirit of rivalry between them which exerted a strong influence over the feelings of the pioneers of the different villages, and produced an *esprit du corps* scarcely to be expected under circumstances so critical and dangerous as those which threatened them. For some time it was a matter of doubt whether Columbia, Losantiville, or North Bend would eventually become the chief seat of business. At first Columbia took the lead both in the number of its inhabitants and in the convenience and appearance of its dwellings. The settlers there were greatly aided in the first year by being able to raise considerable quantities of corn from fields that had formerly been tilled by the Indians. But this lead in the race was soon lost, the advantages conferred on Losantiville by the building of the fort enabling it to go to the front before the close of the year 1790.

Losantiville then became the military headquarters of the region and the depot of the army. In addition to this, in January, 1790, it was made the county-seat of Hamilton county. This was the second county in the territory. At this time Governor St. Clair gave to the place the name of "Cincinnata", which was changed by common usage within a few years to Cincinnati. The name "Losantiville" soon disappeared.

The growth of the town in 1790 was considerable. The increase in families numbered about 40, and nearly as many cabins were erected. Judge Symmes, writing from here November 4, 1790, makes the following report of its progress:

> The advantage is prodigious which this town is gaining over North Bend; upwards of forty framed and hewed-log two-story houses have been and are building since last spring. One builder sets an example for another, and the place already assumes the appearance of a town of some respectability. The inhabitants have doubled here within nine months past.

Some fifteen or twenty of the inhabitants were killed by the Indians this year. About 20 acres in different parts of the town were planted with corn. The men worked in companies and kept a guard on the lookout for the savages. The corn when ripe was ground in hand-mills. Flour, bacon, and other provisions this year, as for a number of the years following, were chiefly imported. Provisions of all sorts were very scarce and dear. A barrel of flour brought $10 and a bushel of salt $8. Game, on the other hand, was so plentiful as to give a most bountiful supply of meat. It formed the principal support of the army at fort Washington. Turkeys were so plentiful that their breasts were salted down, smoked, and chipped for the table as dried beef has been in later days.

Some of the inhabitants brought with them a few light articles of household furniture, but many were nearly destitute of any thing of the kind. Tables were made of planks, and the want of chairs was supplied with blocks of wood; the dishes were wooden bowls and trenchers. The men wore hunting-shirts of linen and linsey-woolsey, and round these a belt, in which were inserted a scalping-knife and a tomahawk. Their moccasins, leggings, and pantaloons were made of deer-skins. The women wore linsey-woolsey manufactured by themselves; and all this was only ninety years ago in the place now called the "Paris of America"!

The Indians were very unpleasant neighbors for the settlers scattered over their vast wilderness. They were continually prowling about the various clearings, "insomuch that those who ventured beyond sight of the forts were in imminent danger, and often fell victims to savage ferocity." To be sure they had ceded their lands to the white man by the treaty of Fort McIntosh, and had renewed and confirmed the cession two years later, in January, 1787, at fort Harmar, but the favorable results anticipated therefrom did not follow. Their lands they would cede, but their good-will could not be bought or forced from them.

Negotiations proving unavailing, General Harmar was finally directed to attack their towns. In pursuance of his instructions he marched from Cincinnati in September, 1790, with 1,300 men, of whom less than one-fourth were regulars. Although he succeeded in burning the Indian villages and destroying their standing corn, yet this was more than counterbalanced by the heavy loss sustained in an ambuscade and in a hard-fought battle. Dispirited by these severe misfortunes, Harmar very shortly returned to Cincinnati. The object of the expedition in intimidating the Indians was entirely unsuccessful.

As the savages continued hostile, a new army, superior to the former, was assembled at Cincinnati, under the command of Governor St. Clair. The regular force amounted to 2,300 men; the militia numbered about 600. Various delays occurred, and it was the middle of September, 1791, before the expedition was fairly started. Misfortune attended it almost from the beginning. Two forts, Hamilton and Jefferson, were established and garrisoned on the route, about 40 miles from each other. On the 14th of October the army, consisting now of only 1,700 non-commissioned officers and privates fit for duty, left fort Jefferson with not more than three days' supply of flour. Many of the horses died for want of forage, and on the 31st, 60 of the Kentucky militia deserted in a body. The first regiment was ordered to pursue them and to secure the advancing convoys of provisions, which it was feared they designed to plunder. Thus weakened by desertion and division, St. Clair approached the Indian villages. November 3 he halted, intending to await the return of the absent regiment. On the following morning, however, about half an hour before sunrise, the American army was attacked with great fury, as there is good reason to believe, by the whole disposable force of the northwest tribes. On November 4 the Americans were totally defeated. General Butler and upward of 600 men were killed. General St. Clair at once returned to Cincinnati, gave Major Ziegler the command of fort Washington, and returned to Philadelphia.

This year Cincinnati had little increase in population. About one-half of the inhabitants were attached to the army, and many of them were killed. The unfortunate event of the campaign not only alarmed the citizens for their safety, but so discouraged several of them that they removed to Kentucky. No new manufactures were established, except a horse-mill for grinding corn. Indian outrages of every kind multiplied after St. Clair's defeat, and immigration was almost entirely suspended. In 1792, however, 40 or 50 settlers came to Cincinnati. Several cabins and 3 or 4 houses were built in that year.

President Washington now urged forward the vigorous prosecution of the war for the protection of the Northwest territory, but various obstacles retarded the enlistment and organization of a new army. In April, 1792, General St. Clair resigned his command, and Anthony Wayne, a bold, energetic, and experienced officer of the Revolution, was appointed by President Washington to succeed him.

The troops that had been recruited for Wayne's army assembled at Pittsburgh during the summer and autumn of 1792, and encamped for the winter on the Ohio, about 20 miles below that place. In the next spring they descended the river under the command of General Wayne, and landed at Cincinnati. Here the general made an encampment, where he remained for two or three months, and then marched to the spot where he established fort Greenville. The army remained at this fort during the winter and until July following (1794). Thence Wayne led his force, consisting of about 2,000 regular troops and 1,500 mounted volunteers from Kentucky, against the enemy. On the 20th of August he encountered them, and after a short and deadly conflict the Indians fled in the greatest confusion.

This great victory did not reduce the savages to submission. Their corn-fields and villages were destroyed, their country was laid waste, and forts were erected in the heart of their territory before they could be entirely subdued. At length, however, they became thoroughly convinced of their inability to resist American arms, and sued for peace. On the 3d of August, 1795, General Wayne made a treaty with them at fort Greenville, which put an end to their hostilities and made possible a peaceful and rapid settlement of the Northwest territory.

The return of peace gave the settlers new ambition and new hopes. They removed from their forts into the adjacent country, selected farms, built cabins, and began to subdue the forest. As soon as the news of peace reached the states emigrants began to flock across the mountains in great numbers. The natural result of the security afforded them by the treaty was that they passed by the villages and penetrated the heart of the wilderness, preferring to spread themselves over a newer country, where land could be obtained more cheaply. Thus, although the population of the territory increased very rapidly, that of the towns increased but slowly for a few years. For instance, Cincinnati in 1795 contained 94 cabins, 10 frame houses, and about 500 inhabitants. In 1800 the population was estimated at 750, and in 1805 at 960 only. This period of ten years shows, comparatively speaking, less growth than any equal period since. To be sure, in that time the population was almost doubled, but that is by no means a rare occurrence in frontier towns, and indicates far less real progress than a much smaller percentage of increase would show in later years.

During the time of the Indian war, or, for that matter, during the years immediately following, few incidents worthy of note occurred in Cincinnati. The encampment here of Wayne's army was in one sense a benefit, inasmuch as it made business lively. It was followed, however, by a disaster that more than counterbalanced the gain that had been made. In the fall of 1794, after the army left town, the small-pox broke out among the soldiers in fort Washington, and spread through the town with such malignity that nearly one-third of the soldiers and citizens fell victims to its ravages.

Soon after the conclusion of the war the fort was put under the command of William H. Harrison, afterward President of the United States, who had been aide-de-camp of Wayne, and who was now given a commission as captain. Captain Harrison held this place until his resignation from the army in 1798. He then became secretary of the Northwest territory, and in 1799 was chosen to represent it in Congress. In 1801 he became governor of the new territory of Indiana. Some forty years later he was elected President of the United States. It was while he was in command of fort Washington that he married the daughter of Judge Symmes, the proprietor of the purchase.

It was said that Captain Harrison resigned his commission because the idleness and dissipation of a garrison life comported neither with his taste nor with his active temper. However that may have been, it is certain that he was one of the few officers that lived in fort Washington who were not addicted to idleness, drinking, and gambling. These habits prevailed to a greater extent in the army at that time than they ever have since. As Cincinnati, like all the western settlements during this period, contained but few individuals and still fewer families that had been accustomed to mingle in the circle of polite society, the military had it in their power to give character to the manners and customs of the people. But the example they set at fort Washington was by no means calculated to have the most favorable effect on the morals and society of any community.

A very large proportion of the officers under General Wayne, and subsequently under General Wilkinson, were hard drinkers. Gambling was also a common practice at the garrison. As a natural consequence the citizens indulged in the same practices. As proof of this may be instanced Judge Burnet's statement that when he came to the bar in Cincinnati there were nine resident lawyers in the town; all but one of them became confirmed sots and descended to premature graves. This was the fate of almost all the lawyers throughout the territory.

To the presence of the soldiers was also due, in all probability, the remarkable amount of unpleasantness that existed in conjugal relations. The newspapers of the time are conspicuously full of complaints of husbands against wives in various forms, and of notices not to trust the wife on the husband's account.

But it must not be supposed that the inhabitants of early Cincinnati were altogether immoral and vicious. On the contrary, a considerable number of them were drawn up on the side of law and morality, and honesty and virtue early made themselves felt by establishing in the community those institutions that enable the right to triumph and civilization to progress—the church and the school.

In laying out the plat of Cincinnati the square between Walnut, Main, Fourth, and Fifth streets was dedicated for the use of a meeting-house, a graveyard, and a school. At first the sabbath devotions were in camp-meeting style, under the native forest trees of this consecrated spot. Such was the state of society then that, by the law of the territory, male adult attendants at these meetings were required to be armed with loaded guns. On the 16th of October, 1790, Rev. David Rice, of Virginia, the pioneer Presbyterian minister in Kentucky, came here in the course of his missionary circuit, gathered together 8 devout persons and formed the first Presbyterian society. In October of the following year the little flock agreed to raise $700, and from the timber growing on the spot to build a meeting-house. Until it was furnished services were held in a horse-mill on Vine street, used for grinding corn. A frame building was under cover by October, 1792, but it had only an earth floor and log seats then; later a floor was laid of boat-plank resting on wooden blocks. The building was not really completed till 1799. Judge Burnet says that at the time of the treaty of Greenville, "on the north side of Fourth street, opposite where St. Paul's church now stands, there stood a frame school-house, inclosed, but unfinished, in which the children of the village were instructed". On the other hand, Drake, in his *Picture of Cincinnati*, published in 1815, says:

> The proprietors of the town * * * made no donation for the support of education, not even a site for a school-house. [In this, at least, he was mistaken, for the square on which the meeting-house stood was also to be used for a school-house.] The business of tuition was therefore generally conducted by strangers and transient teachers in rented rooms till the year 1811, when ten or twelve individuals purchased a small lot, erected a couple of school-houses, and employed two or three teachers; but notwithstanding their laudable exertions this academy has not flourished.

So it seems that schools were early established here, but that in the first years of the town's existence little attention was paid to the advancement of learning.

At the beginning of the present century the entire surface of cleared lands at Cincinnati did not begin to equal that which is now built over by a solid mass of houses. West of Western row there was a forest, with here and there a small cabin, connected with the village by a narrow winding road; in fact, where the best part of the city now is, was then but a mere clearing, with here and there a field and a few cabins. At the intersection of Main and Fifth streets there was a pond of water, full of alder bushes, to pass which a wooden causeway had to be constructed. The men of wealth and business were chiefly located on Front street, which even had a few patches of sidewalk pavement. Near the hotel, which was on the corner of Front and Sycamore streets, was a small wooden market-house built over a cove, into which barges and other craft, when the river was high, were poled or paddled, to be tied there to the rude columns. From Fourth street to the river was the military reserve around fort Washington. In 1803 the fort was evacuated, and soon after the grounds were divided and sold. The post-office was kept on the eastern side of this military common, near the corner of Lawrence and Congress streets, where the great eastern mail generally arrived as often as once a week; but frequently, when the traveling was bad, the town would not hear from the East for two weeks or more.

In those early times the sparse population, as well as the rude state of the arts, required the duties of several professions to be performed by one person. The physician was at once surgeon, physician, dentist, and apothecary; and the merchant was a sort of universal purveyor to society, whose store was an *omnium gatherum* of all needed wares. Something of this we see in the country towns now, but not to the same extent. The difficulties of locomotion made a great difference in relative prices. Merchandise brought from a distance was very dear, while the personal services of a professional man were very cheap. A doctor would ride five, eight, or ten miles of a dark night to visit a patient, and receive without complaint the regular price of a visit—feed for his horse and a cut quarter in cash.

"Cut quarters" were quite common as currency in early times. The peculiarity of "cut money" was that a dollar by the cutting process yielded five quarters. Everybody seems to have taken them, and so nobody was injured by the operation, except those who held them when they ceased to be acceptable coins. Their use originated in the scarcity of cash, of which article the Miami purchase, like most new countries, could keep very little till the settlers ceased to make their purchases in the East. This state of affairs necessitated a great deal of barter. Debts were often contracted payable in trade. A due-bill of a farmer, dated 1793, to one of the first lawyers in Cincinnati for professional services, reads, "For a cow and a calf, payable next spring." Another due-bill, of the same date, is for $30, payable in pork, the debt having been incurred on the same score. Flour was extensively exchanged with the bakers for bread, pound for pound, the baker making a very fair profit in the operation. In store dealings change was made by giving a row or two of pins or a few needles.

In 1799 the legislative power of the governor and judges was superseded by that of a general assembly, composed of a house of representatives, elected by the people, and a legislative council, appointed by Congress.

The first assembly was appointed to convene at Cincinnati on the 16th of September, 1799. It was this assembly that sent Harrison to Congress. After the close of the first session a law was passed by Congress removing the seat of government to Chillicothe, and there it remained from 1800 to 1810. After that the sessions of the assembly were held for two years at Zanesville, and then at Chillicothe again until 1816, when Columbus became the permanent capital of the state.

A division of the territory was made and the boundaries of Ohio were determined in 1802, when Congress passed a law enabling the people of the state to form a constitution; and in 1803 the state government went into operation.

January 2, 1802, the territorial legislature incorporated the town of Cincinnati. The officers appointed were a president, a recorder, 7 trustees, an assessor, a collector, and a town marshal.

Josiah Espy, in his journal of a *Tour in Ohio, Kentucky, and Indiana Territories*, made in 1805, wrote: "Cincinnati is a remarkably sprightly, thriving town, containing, from appearance, about 200 dwelling-houses, many of these elegant brick buildings."

About this time Cincinnati took a decided start. In 1810 its population had increased to 2,540. In that year, according to the "*Topographical Description of Ohio, Indiana Territory, and Louisiana*, by a late officer of the army," published at Boston in 1812, this place contained "about 400 dwellings, an elegant court-house, jail, 3 market-houses, a land office for the sale of Congress lands, 2 printing-offices issuing weekly gazettes, and 30 mercantile stores".

According to another authority there were then in Cincinnati 397 houses, divided as follows: Frame houses, 242; log, 55; brick, 86; and stone, 14. The number of looms in town was 31; of spinning-wheels, 230; the amount of woolen cloth made in the previous year was 755 yards; of cotton cloth, 2,967 yards; of linen cloth, 2,098 yards; of "mixt" cloth, 685 yards. The writer of the *Topographical Description* says in this connection: "The various branches of mechanism are carried on with spirit. Industry of every kind being duly encouraged by the citizens, it is likely to become a considerable manufacturing place."

The houses were located generally on the lower level, below what is now Third street. The principal street was Main street, and it was pretty well built upon as high as Sixth or Seventh streets, the latter being yet the northern boundary of the village. It had its Presbyterian meeting-house, grave-yard, court-house, jail, and public whipping-post, all on the same square. Upon this same ground, between the court-house and the meeting-house, bands of friendly Indians would occasionally have war-dances, much to the amusement of the villagers, after which the hat would be handed round.

When fires occurred, every one able to labor was required to be on hand with his long leathern fire-bucket, and to form a line to the river to pass water to the burning house. Every householder was required to keep one of these buckets hung up, marked and ready for instant use.

The streets were for a large portion of the year covered with dust six inches deep, and at other times with mud much deeper. Causeways of logs, generally a foot in diameter, were laid in various parts of Main street from Front to Lower Market; this street, then many feet below its present grade, had boat gunwales laid as footways a part of the distance. In very muddy weather the citizens walked upon the rails of the post-and-rail fences that inclosed the lots along the street.

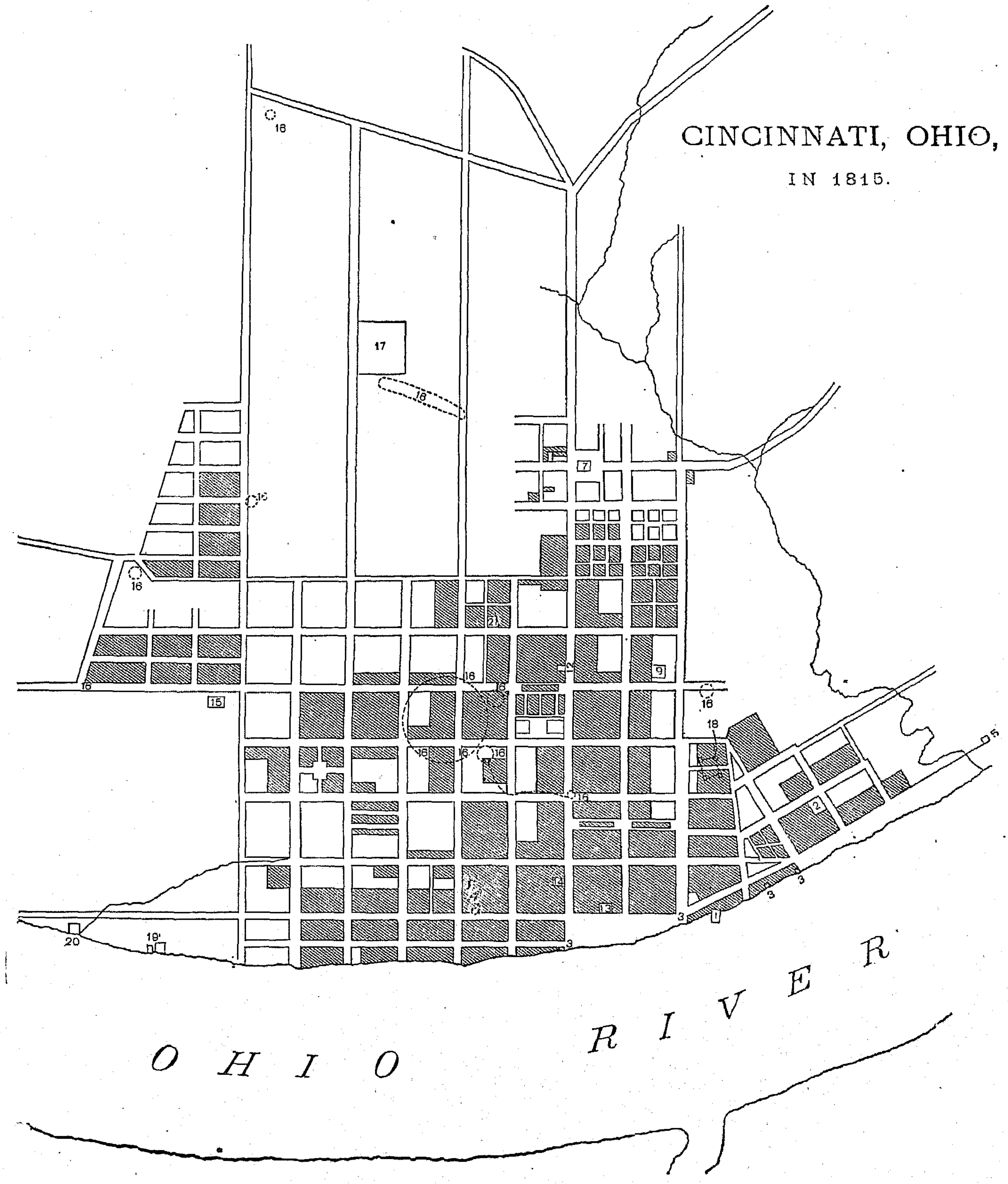
The year 1811 was remarkable for two things—the building of the first steamboat to navigate the western waters, and the great earthquake. The history of Ohio steamboating will be taken up later.

In the morning of the 16th of December, 1811, the inhabitants of the Miami country, and especially of Cincinnati and its neighborhood, were awakened at about 3 o'clock by a shaking of their houses and by rumbling noises that seemed like distant thunder. The most intelligent persons soon discovered it to be an earthquake; but this by no means allayed the alarm, and even after the shocks had continued throughout the winter and the people had got quite used to them, they were none the less dreaded. The original seat of this shaking of the earth seems to have been near New Madrid, on the Mississippi, a point 400 miles in a direct line from Cincinnati. There the convulsion was terrific. Boats on the river were thrown into a boiling whirlpool, and many were engulfed in its vortex. The banks of the river were rent, the earth was opened, the waters rushing in formed lakes for miles where the land was dry before. Explosions from beneath took place, and fossils, buried in the alluvium of ages, were forced to the surface. The movements, as of a lever, of this central force were felt throughout North America, diminishing in intensity in the inverse ratio of the distance. The power of the original cause may be estimated from the effects at Cincinnati, where the shocks threw down the tops of chimneys, made fissures in the walls, and produced vertigo and nausea in many instances.

In the war of 1812 that part of Ohio and the neighboring states about lake Erie was the scene of active military operations. The British, however, never penetrated into the southern part of the state, and at no time in the war was Cincinnati in any way conspicuous. Yet the war was not without a most powerful influence on the place. By paralyzing the enterprise of the Atlantic states, the war sent out vast numbers to the West, and was thereby the means, to a great extent, of filling the country with population, of causing an extraordinary development of its natural resources, and of giving an artificial stimulus to commerce and business of all sorts.

CINCINNATI, OHIO,

IN 1815.



By producing an almost complete exclusion of European goods, the war of 1812 caused new manufactures to spring up throughout the country and gave new life to the old ones. Cincinnati shared in the apparent prosperity. Everybody gave and took credit, and nearly everybody engaged in some sort of commercial business. Physicians became merchants, clergymen bankers, and lawyers manufacturers. Farmers and mechanics, not tempted to become tradesmen and bankers, turned their attention to town-making, always an attractive occupation in new countries. Within 100 miles of Cincinnati hundreds of new towns were laid out, all of which were guaranteed by their proprietors to have unrivaled advantages, and the sure prospect of becoming a Rome or a Venice.

Here as elsewhere throughout the land raged a great fever for banking. In addition to the Miami Exporting Company, which had been incorporated in 1803, and had begun banking operations in 1807, there now sprang up the Farmers and Mechanics' Bank, incorporated in 1812, with a capital of $500,000; the bank of Cincinnati, incorporated 1816, with a capital of $600,000; the United States Branch Bank, which began operations in 1817; and in the same year John H. Piatt & Co.'s Bank. The Cincinnati Insurance Company was incorporated in 1819, with a capital of $500,000. Five banks and an insurance company seems a rather large allowance for a town of less than 10,000 inhabitants.

The close of the war broke down all the barriers against the importation of foreign goods. The country was at once flooded with English and French merchandise, and American manufactures went to the wall. Prices came tumbling down, and continued importations brought them still lower. For a while business stood the storm bravely, but to pay for the imports the country was drained of coin, and it began to be difficult to get money to pay debts. The trouble was aggravated by the paper issues of the great number of local banks that had been established. When the crash came credits were destroyed, and men and banks failed in large numbers. Thus began the desolating storm that swept the entire country from east to west, and continued from 1817 to 1823.

For a few years it seemed as if the town would have to go into liquidation. The credit of its merchants with the East sank lower than ever before or since. Cincinnati's want of credit was proverbial throughout the eastern states and cities. It was not until 1825 that the town fairly recovered from the shock and business resumed its wonted activity.

The condition of Cincinnati in 1815 is well portrayed in Drake's *Picture of Cincinnati*, published in that year. Among other things the price of lots receives mention:

> For several years after the settlement of this place the lots along the principal streets were sold for less than $100 each. They gradually increased in price until the year 1805, when, from a sudden influx of population, they rose for a short time with great rapidity. Their advancement was then slower till 1811, since which the rate of increase has been so high that for a year past the lots on Main, from Fourth to Third streets, have sold at $200 per foot, measuring on the front line; from thence to Sixth street, at $100; in Broadway, Front, and Market streets, from $80 to $120; and on the others from $50 to $10, according to local advantages.

Drake furthermore says that on the plat of Cincinnati there were, in July, 1815, nearly 1,100 houses, exclusive of kitchens, smoke-houses, and stables. Of these, more than 20 were of stone, 250 of brick, and the rest of wood; 660 contained families; the remainder were public buildings, shops, warehouses, and offices. The dwelling-houses were generally two stories high, and built in a neat and simple style, with sloping shingled roofs and Tuscan or Corinthian cornices. Very few of the frame houses were painted. There were 3 market-houses, one of them being upward of 330 feet in length, the others smaller.

A large proportion of the water used was drawn up from the Ohio in barrels. It was often impure and required time to settle, but for most domestic purposes it was preferred to well-water. Cisterns were common. Wood was the chief article of fuel—beech, ash, hickory, sugar-tree, oak, red maple, honey-locust, and buckeye being the varieties most in use. Little coal was as yet consumed here except by manufacturers. It was brought from Pittsburgh, and sold on the river-shore at 10 or 15 cents per bushel.

There was as yet no iron foundery, but a manufactory of cotton and woolen machinery had been in operation for six years. Among other manufacturing establishments were a steam saw-mill, 4 cotton-spinning factories, 2 breweries, and a mustard factory.

A public library was opened in 1814, and in 1815 had 800 volumes.

Drake gives a very *naïve* description of the state of society at the time:

> Wealth is pretty equally distributed, and the prohibition of slavery diffuses labor, while the disproportionate immigration of young men, with the facility of obtaining sustenance, leads to frequent and hasty marriages, and places many females in the situation of matrons who would of necessity be servants in older countries. The rich, being thus compelled to labor, find but little time for indulgence in luxury and extravagance, their ostentation is restricted, and industry is made to become a characteristic virtue.
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> It need scarcely be added that we have as yet no epidemic amusements among us. Cards were fashionable in town for several years after the Indian war that succeeded its settlement; but it seems they have since been banished from the genteeler circles, and are harbored only in the vulgar grog-shop or the nocturnal gaming-room. Dancing is not infrequent among the wealthier classes, but is never carried to excess. Theatrical exhibitions, both by amateurs and itinerants, have occurred at intervals for a dozen years, and a society of young townsmen has lately erected a temporary wooden play-house, in which they have themselves performed. Sailing for pleasure on the Ohio is but seldom practiced; and riding out of town for recreation, on horseback or in carriages, is rather uncommon, for want of better roads. Evening walks are more habitual, in which the river-bank and adjacent hills (the Columbian garden) and the mound, at the west end, are the principal resorts.

A comparison of Drake's statements with the following, taken from the *Cincinnati Directory* for 1819–'20, will show well the progress that Cincinnati made in these four years just following the war, before the town had yet felt the full effects of the commercial crisis, and while prosperity yet appeared, at least, to prevail:

It is the opinion of several well-informed mechanics that not less than 300 buildings were erected in 1818; and, notwithstanding the depression of commercial business, probably not less than two-thirds that number will be built in 1819. The buildings, however, which are occupied as dwellings are insufficient to contain the inhabitants with any tolerable convenience. * * * The actual number of dwelling-houses being 1,003, the average number in each family, allowing 1 family to each house, is more than 9 persons. Most of the houses that have been built within the last five or six years have been constructed of brick, and by far the greater portion of them are 2 or 3 stories in height. One prevailing trait displayed in almost all the houses in town is a want of architectural taste and skill.

According to the best estimate we can make, the length of pavement in the several streets is between 8,000 and 9,000 feet; that of the sidewalks is vastly greater. The streets in width are between 60 and 120 feet.

Within two or three years, two bridges have been built within the limits of the city, one at the confluence of Deer creek with the Ohio, and the other a few squares north of it on the same stream, the first 340 feet in length. Another has also, within the same period, been erected over the mouth of Mill creek, near the western extremity of the city, by Ethan Stone. This is a toll-bridge, and, with the exception of two or three, is probably the finest in the state.

In 1819 a charter was obtained from the state legislature, by which Cincinnati was incorporated as a city. This charter, since repeatedly amended and altered, forms the basis of its present municipal authority. By the act of 1819, the legislative power of the corporation was vested in a city council, composed of a president, a recorder, and 9 trustees. The usual powers were given them. The judicial power was vested in a city court, consisting of a mayor and 3 aldermen, appointed by the city council from among the citizens. This court was to hold its sessions once every two months. It had original jurisdiction over all crimes and misdemeanors committed within the city, the punishment of which did not amount to confinement within the penitentiary, appellate jurisdiction from the decisions of the mayor in all cases, and concurrent jurisdiction with the court of common pleas in all civil cases where the defendant resided within the corporation, and where the title to real estate might not be called in question.

Cincinnati owed her birth as a mart of business to the Ohio river; to it was due her wonderful growth. The canal, and still later the railroad, contributed much to her wealth, but it was principally to the river that Cincinnati owed her prominence.

The early navigation of the Ohio was carried on by means of keel- and flat-boats, barges, and pirogues or large canoes. The first regular packet line on the river was formed between Pittsburgh and Cincinnati in January, 1794, consisting of 4 keel-boats of 20 tons each. In 1810, a journey from New York to Cincinnati, going by vessel to Philadelphia, by Conestoga wagon to Pittsburgh, and then by keel-boat down the Ohio, took sixty days. From Cincinnati to New Orleans by barge, keel-boat, or broadhom, and return on horseback through the Indian country, took from three to four months.

In those days Cincinnati's imports were principally brought, at great expense, across the mountains from Philadelphia, Baltimore, and New York. The exports, necessarily, followed the channel of the Ohio and the Mississippi to New Orleans. But as the boats which took the produce to market were principally flats, which never returned, and the rest keels and barges, which were brought back with immense labor, delay, and expense, the export trade, as was to be expected, was languid and dull. The steamboat revolutionized all this.

The pioneer steamboat on the western rivers was the "New Orleans", built by Robert Fulton, at Pittsburgh, in 1811, at a cost of $40,000. She was provided with a stern-wheel and sails, and was between 300 and 400 tons burden. In October, 1812, she made the trip from Pittsburgh to Louisville in 70 hours. She then made several trips to Cincinnati, and in December went to New Orleans, and was there put into the trade between that city and Natchez. She was wrecked on a snag in 1814.

None of the first boats built were able to ascend the Mississippi. They went downstream well enough, but never came back. The ascent was not accomplished till 1815, when the "Enterprise", a small boat of only 70 tons burden, with a single wheel at the stern, for the first time made the voyage up river from New Orleans to Cincinnati, arriving there in 28 days.

The first steamboat built at Cincinnati was the "Vesta", launched in 1816. It was not, however, until the next year that steamboating was actively and extensively pursued in the West. Boats then began to be built in large numbers, and trade was opened with every part of the Mississippi valley. Cincinnati became the mart of a vast commerce, and the center of an immense transit. The voyage to distant places was made in as many days as it had taken weeks, and suddenly 30,000 miles of river coast opened to her a commerce and traffic as extensive as if she had been placed on the shores of the Mediterranean or the Pacific. She became the point for the receipt, distribution, and transhipment of the immense surplus products of the great regions of which she was a center. These exports were paid for by vast quantities of imports from all quarters of the world. The increase in business which immediately followed may be judged from the statistics of imports in the years in question. The publisher of the directory for 1819–'20, estimating from the best data he could obtain, put the imports from places east and south of Cincinnati in the four preceding years as follows:

1815	$534,680
1816	691,075
1817	1,442,266
1818	1,619,030

In 1819 he thought that, owing to temporary reasons, the imports would not be over $500,000, but estimated the exports at $1,554,080. At that time about 75 steamboats were navigating the western waters, occasionally plying between Pittsburgh, Saint Louis, and New Orleans. Of these, nearly a quarter had been built in the vicinity of Cincinnati within two years.

Of the 143 steamboats running on western waters in 1826, 48 were built in Cincinnati, 35 at Pittsburgh, 10 at New Albany, and the rest at different places along the rivers. In 1841 there were 437 steamboats in the West, of which 88 belonged to the district of Cincinnati. The following are the steamboating statistics of Cincinnati in 1857: Boats built, 33, tonnage, 9,500; separate steamers arrived, 357, tonnage, 87,453; arrivals, 3,600; departures, 3,500. The average capacity of these boats was 250 tons.

The legitimate offspring of the steamboat was the canal. The enterprising citizens of Cincinnati quickly saw that something more than mere mud roads was necessary to transmit the cargoes of the steamboats over the country, and to bring the products of the land to the steamboat-landing.

The first canal enterprise in which the citizens of Cincinnati took an active share was one to facilitate the movements of the steamboat. The aim was to construct a canal around the falls of the Ohio at Louisville, or rather at Jeffersonville, on the opposite shore. The Jeffersonville and Ohio Canal Company was chartered by the legislature of Indiana in 1818, with a capital of $1,000,000. Most of the stock was taken up by the citizens of Jeffersonville and Cincinnati. As the steamboats built in later years were mostly able to ascend the rapids, this canal was not needed, as was anticipated, to prevent Louisville from being "the head of navigation during the greater part of the year".

An inspection of the map of southern Ohio and Indiana will show that there are four valleys which are of importance to Cincinnati. The first is the small valley of Mill creek, which is about 20 miles in length and terminates at the city. This is the only opening through which a road can reach the city without passing over hills and descending steep declivities. In consequence of this natural formation of the ground, the "Hamilton" road, as it is called, was for many years almost the only avenue by which business was transacted with the back country.

Then come the valleys of the Little and the Great Miami rivers, and lastly the valley of the Whitewater river, which joins the Great Miami very near its mouth. The whole of this last-named valley lies in Indiana, but trades with Cincinnati.

Through the most important of these valleys, that of the Great Miami, in connection with the Mill Creek valley, was constructed the earliest of the great works of internal improvement immediately connected with Cincinnati. The Miami canal was begun in 1825. Governor De Witt Clinton came from New York to dig the first spadeful of earth, this ceremony being performed at Middletown. The work was finished in 1828 to the mouth of Mad river, where Dayton now stands, a distance of about 67 miles. Later it was extended to Defiance, 178 miles from Cincinnati, where it met the Wabash and Erie canal. The cost was $3,750,000. The whole distance to lake Erie is 265 miles.

One of the subsidiary benefits conferred on Cincinnati by this canal was the water-power which it brought to the aid of her manufacturing industries. The original estimate of its amount was 3,000 cubic feet per minute. Most of this power was quickly employed within the corporate limits of the city. The opening of this canal gave the city a new start, infusing fresh life into its veins. So beneficent were its effects that the people at once began looking round for new fields to conquer in the same way. The Whitewater valley met their eye, and the Cincinnati and Whitewater canal was forthwith projected. The plan was to build a canal 25 miles in length, from Cincinnati to Harrison (on the state line), and there to connect with the Whitewater canal, an enterprise of the state of Indiana.

The city made an effort greater than she ever made for any other single improvement when she voted $400,000 toward this new project, and again when later she loaned the canal company the further sum of $30,000. This canal was unfortunate. Unforeseen accidents befell it; unusual floods came and swept away its embankments. One disappointment succeeded another, till heavy debt weighed down its prospects. The difficulties of construction and the cost were far greater than had been anticipated; and the Whitewater canal in Indiana, upon which it depended for success, was found much out of repair, which disappointed the hopes of the city from that source. It was finally abandoned seventeen years ago. A railroad now occupies its bed, and the Central Avenue freight depot is on its basin.

Prior to the opening of the Miami canal the city depended altogether upon the river and the mud roads for its daily provisions. Occasionally during a mild and open winter the mud roads would become impassable for wagons, and the people would be subjected to short allowances. The canal partially remedied this, but not enough to preclude the immediate necessity of better roads. The first macadam road or turnpike was built in 1831, and was soon followed by others. Most of the turnpikes were built, or at least started, within the next ten years. In 1841 there were five leading directly out from Cincinnati, and nine more branching out from the main lines or subsidiary to them. Some of these were finished, and most of the others were nearly so.

Cincinnati's first railroad was the Little Miami. This road was 85 miles in length, running from Cincinnati up the valley of the Little Miami river to Xenia, and thence to Springfield. Long and severe was the struggle by which

its construction was accomplished. It was chartered in 1836, and was not finished until 1846. Its capital stock was chiefly subscribed by public corporations. The state, the city, and the counties along the line took $400,000 in stock, and the city loaned $100,000 besides; while the utmost that was received in individual subscriptions before the road was finished and in successful operation was $132,000.

The second railroad leading out of Cincinnati, the Cincinnati, Hamilton, and Dayton, was built without the aid of county or town subscriptions. Such was the faith at home in the enterprise that within a month a cash subscription of three-quarters of a million was made by the citizens. New York capitalists took the remaining stock and the first issue of bonds at par.

This was in 1848, just at the beginning of the period in which the mania for building railroads reached such a height, and which culminated in the financial crisis of 1857. During these years Cincinnati had her share of the craze, and at the end of that time was bountifully supplied with roads. Cist, in *Cincinnati in* 1859, gives a list of those that then radiated from the city and connected her with the rest of the country, by which it appears that there were 12 such lines, with an aggregate of 2,275 miles of finished road, and 5 sets of auxiliary lines, with a like aggregate of 957 miles, making a total of 3,232 miles; besides this there were 4,789 miles of other roads, more than one-half of which were completed and in use.

It is, then, to the river and the canal, the turnpike and the railroad, that Cincinnati principally owes her wonderful career; but it must be recognized that her success is not wholly due to her commercial relations. Her commerce has been seconded, and well seconded, by her manufactures.

As is usual in any new town, a few manufactures were early carried on in Cincinnati; but, as has been previously said, they did not assume any prominence until after the war of 1812 had begun. The chief manufacturing establishments of the town in 1815 have been mentioned. In 1819 there was a steam-mill, for making flour, and also for carding and dressing cloth, a steam saw-mill and an ox saw-mill, a woolen- and a glass-factory, a sugar refinery, an oil-mill, and 2 founderies. In all the other manufacturing industries of the city 1,238 hands were employed, and the annual products amounted to $1,059,459.

The industrial development in Cincinnati from 1826 to 1858 is shown by the estimate made in the following table:

Year.	Number of establishments.	Number of hands.	Value of products.
1826	400	2,950	$1,850,000
1840	1,594	10,608	17,328,051
1850	3,850	33,098	52,109,374
1858	5,000	58,000	100,000,000.

Among the manufacturing establishments during these years the most conspicuous are those for the curing of meats, the manufacture of clothing, of furniture, and of iron. In the curing of meats (especially the products of the hog), and the minor products made from them, Cincinnati has long been famous. Pork began to be a great staple about 1820. The business increased wonderfully, making the city the greatest in the world for this article, both as to quantity and quality, up to 1874–'75, when a sister city of the West surpassed it. The brewing of beer, begun in 1812, formed another great branch of manufacture and export, and for the last 15 years it has reached enormous proportions. About 1850 the manufacture of steam fire-engines became a distinctive feature. The same can be said of the manufacture of fire- and burglar-proof safes. Large stove-works, and also carriage and buggy manufactories, have been important factors of the business interests of Cincinnati. Ready-made clothing is manufactured in large quantities, giving employment to a great many people. The boot and shoe trade is also very extensive. Cotton and woolen manufactories have never been successful, and but one of each remains at the present time. Furniture-making of every description has added greatly to the manufacturing importance of the city.

Taking up the thread of history of the city again, little is met that is noteworthy. In 1825 and 1826 the city was undergoing the severe ordeal of paying off "old debts". Through the branch established here by the United States Bank in 1817, during the years of inflation and extravagance that followed, most of the large real-estate owners had become hopelessly in debt, and large portions of their property had been taken by the United States Bank and subsequently sold at an advance. Some few obtained the right of redemption, and, by borrowing money in New York and Philadelphia, succeeded in saving their estates; but many, if not a majority of debtors, went under. Interest ranged from 10 to 36 per cent. per annum, and there was no legal limit. At this period the valuation of property listed for taxation was $6,848,433.

The opening of the Miami canal in 1828 gave new life to all business. Real estate again advanced, and those who had money to invest reaped a harvest.

It has been said that Cincinnati never went backward. This is true as regards population, but not as to the value of real estate. Once, and once only, has her real estate decidedly receded in its market or salable value. That was during the ten years preceding the opening of the Miami canal. For instance, 740 feet front by 100 on Seventh street sold at public sale in 1817 for $4,000; at private sale in 1827 for $2,100, *i. e.*, about $3 per front foot; now worth $300 per front foot.

The revenue of Cincinnati in 1826 was as follows:

Direct tax, 3 mills on the grand levy	$9,472 17
Licenses to taverns, coffee-houses, and pork-houses	4,445 00
Wharfage (about)	2,200 00
Rent of market-stalls	1,400 00
Tax on animals	975 05
Licenses for plays, exhibitions, etc. (about)	500 00
Fines and miscellaneous items (about)	800 00
Total	19,792 22

In 1826 the health department expended $1,200 for vaccinating, at the public expense, 2,300 persons, in consequence of an alarm occasioned by the appearance of a few cases of small-pox in the city and its prevalence on the river below.

In the winter of 1829–'30 what are known as the great fires of the city in its early history took place. One of these burnt the buildings on half a square on Main street above Third, causing a loss of about $300,000. The other was the burning of the pumping-house and machinery of the water-works. This was not intrinsically a heavy loss, but in its results was the most disastrous the city ever felt. It happened in midwinter, when the river was very low and was frozen over so that engines were taken on the ice and worked to extinguish the fire. There were few cisterns or wells, and the stoppage of the water-works involved great discomfort as well as positive loss. Nearly all the manufacturing establishments using steam were compelled to close up. Those that did not, obtained water by hauling at great expense. For instance, one firm that obtained its supply from the water-works at $75 a year brought suit against the company to recover $700, paid for hauling water during two months. Besides this source of loss the city was compelled to go to the expense of employing five hundred police to watch the city, to guard against incendiarism.

The year 1832 was a disastrous one for Cincinnati. In February occurred the great freshet, when the water rose 63 feet above low-water mark, which is supposed to be about 5 feet higher than it reached in 1792 or in 1815. This flood was of the most distressing character, turning hundreds of families houseless upon the community, and destroying thousands of dollars' worth of property. The water extended over thirty-five squares, floated away many houses, undermined and overturned others, and carried off the large bridge over the mouth of Mill creek. Business of almost every description was stopped. Since the greater proportion of the flour and other provisions in the city had been kept below high-water mark, provisions became scarce, and a partial famine ensued.

No sooner had the city recovered from this calamity than it was afflicted by another, far more terrible and disastrous. In October came the Asiatic cholera. The reports of the board of health, as published in the city papers, beginning on the 10th of that month, and ending on the 3d of November, showed the number of deaths from the plague to be 351, which was probably much less than the real number. The greatest number of deaths in any one day was on the 21st of October, when 42 persons died.

The city was also visited by this scourge in the two subsequent years. Three successive seasons of the cholera is what has seldom fallen to the lot of any place in the United States. In the year 1833, as Dr. Drake remarked in the *Medical Journal*, the deaths per day were far less than they had been in the autumn of 1832, but, on the other hand, the disease remained four times as long. It began about the middle of April and continued till September. In 1834 it was perhaps still less violent than in 1833, but it was prevalent during the whole season of warm weather, and cast its fear and shadow upon all things.

When, however, in 1835 it became evident that the dreaded plague had left the country, a season of extraordinary activity ensued. In the East began that series of enormous speculations whose center was at New York, and which, in some respects, has never been surpassed in this country. It spread to the West, but prevailed comparatively little at Cincinnati. The speculations here were on a small scale, and it is doubtful whether they did more than give a necessary and healthy excitement to the business community, which had been so long in a dull quiescent state. The year 1836 was marked by the destruction of the *Philanthropist* newspaper printing-office by a mob on the 30th of July. The paper was printed for the Anti-Slavery Society of Ohio, and had been running for about three months, under the editorship of James G. Birney.

In September, 1841, the *Philanthropist* office was again sacked by a mob, and for a day and a half the city was the scene of various riotous demonstrations. Several rioters were killed and 20 or 30 wounded. The negroes in the city suffered seriously in these disturbances.

On the 11th of January, 1842, the Miami Exporting Company's Bank assigned its effects, and on the next morning the Bank of Cincinnati closed its doors. A mob assaulted their offices, destroyed all their movable property, and for a while had undisputed possession of the city. After destroying another bank and an exchange office, they were dispersed.

The most terrible accident that ever happened in Cincinnati was the explosion of the boilers of the new and elegant steamboat "Moselle", which left the wharf in Cincinnati April 26, 1838, loaded down with passengers for Louisville and Saint Louis. She first went up the river to take a family on board at Fulton, and while there held

all possible steam, that she might come down at racing speed and overtake and pass another boat that had just left for Louisville. The wheels had scarcely made the first revolution when the boilers exploded, utterly wrecking the boat; over 200 persons perished.

There may well be introduced here some facts regarding old streets, boundaries, and incidents taken from notes by George W. Jones, published in King's *Handbook*. It appears that at the time of the flood of 1831 a large number of the original citizens lived near the river; and it was not until the "miserable Yankees" came and made a fuss about fever and ague, "and such aboriginal invigorators", that people who were "anybody" lived on the hill, say Fourth street. Front street, from Walnut to Elm, was lined with beautiful houses. The wharf was the meeting-place, especially on Sunday mornings. Here the townsmen exchanged the news, took a quiet "nip" at the "Orleans Coffee-House", situated just east of Main street, on the public wharf, and surrounded by a large open garden, and thence went to church. The chief business streets were Main and Lower Market, now East Pearl street. Pearl street was opened in 1832, and at what is now its intersection with Main street stood a large tavern, with a large wagon-yard into which teamsters drove. West of Walnut, Pearl street was opened in 1844. Fifth street, except from Main to Vine, was occupied by cheap residences, and a wooden market-house filled the space now occupied by the esplanade. About 1833, Broadway and East Fourth street began to be pretentious as desirable residence streets. Prior to 1841, Fourth street, west of Walnut, as far as Plum street, was a beautiful street.

In 1841 improvements were made west of Plum street, and in due time reached the "fence", which ended the street at what is now Wood street. In 1832 Columbia, now Second street, was merely a dirty creek, crossed by wooden bridges at all intersections west of Walnut street. No business of importance was done west of Main street. The wharfage was between Main street and Broadway, and even as late as 1846 the wharf space was a great mudhole, sprinkled with coarse gravel.

In 1840, streets beyond the canal were simply unmacadamized roadways. Central avenue was then Western row, which north of Court street ran through pastures. Nearly every family kept a cow, and the cows were driven to the pastures in the morning, and were turned loose to wander home at night to be milked in the alleys and side yards.

The great characteristics of a city were not to be seen in Cincinnati until about 1848, when a "hog law" drove those "first scavengers" from the streets. Ash-piles were condemned, and the city was supplied with water and gas. Most of the houses were cheaply built, and but few people kept carriages. There were only a few schools worthy of note. The merchants often entertained customers at their homes, and the general habits of pioneer simplicity prevailed. Turnpikes from the city were built between 1834 and 1840, and many of the citizens of to-day remember the mud roads to Walnut hills. Prior to 1840 Clifton was unknown. Cumminsville, now the 25th ward, and Camp Washington, now the 24th ward, were all farms. The "sports" gathered at a mile race-track south of the old Brighton House, where the John Street horse-car stables now are. The principal drives were up the river-bank to "Corbin's", or down to old Joe Harrison's place. Only occasional pleasure-parties ascended the hills, and then chiefly toward Cleves. A few elegant homes, some yet in good condition, lined the hill-side of the road which was approached by Front street, and by a road, the Sixth street of the present time. West of Western row Sixth street was not improved much earlier than 1840. A great orchard stood on a high bank west of Park street; milk-yards and brick-kilns generally occupied that locality.

The great Barr estate was north of Sixth street, and was subdivided after 1843, and the Hunt or Pendleton estate, at the head of Broadway, about 1846. In that neighborhood few houses were seen. The pork-houses were on Sycamore and Canal streets, the wholesale dry-goods houses on Pearl and Main streets, and the large grocery houses on Main, Front, and Pearl streets. Such is a faint outline of what the great city of Cincinnati was only 40 years ago.

The flood of 1847 was another serious blow to the business interests of the people, but in a short time energetic business men were again on a fair footing. The greatest prosperity was then enjoyed, and the growth of the city was remarkable—increasing 150 per cent. from 1840 to 1850—until 1857, in which year the failure of the Ohio Life and Trust Company caused serious local disaster. Cincinnati suffered less than any other city of importance in the country, only a few business houses failing. Still, business lost its vigor, and not until 1860 did it recover. Trade generally was paralyzed at the beginning of the war, but during its progress the immense purchases of the government made here gave an impetus to trade such as had never before been known.

Martial law was declared in Cincinnati September 5, 1862. The ten days ensuing will be forever memorable in the annals of the city. A pontoon bridge across the Ohio river was completed between sundown and sundown. In three days there were 10 miles of intrenchments lining the hills, making a semicircle from the river above the city to the banks of the river below, and they were thickly manned from end to end. Luckily, they were never needed.

The area of Cincinnati previous to 1870, when the first annexation was made, was 4,480 acres, or 7 square miles. The territory annexed in 1870 amounted to 8,085 acres, or 12.75 square miles. The last annexation, in 1873, brought in 2,695 acres, or 4.25 square miles. Total number of acres, 15,260; total square miles, 24. The Ohio River frontage of the city, from Columbia on the east to Riverside on the west, is 11 miles.

The year 1873, which brought disaster to the whole country, brought it also to Cincinnati, but from its effects the city has now almost wholly recovered.

The history of the water-works of Cincinnati dates back to 1817, when the town council granted by ordinance to the Cincinnati Manufacturing Company the exclusive privilege of supplying the city with water for the term of 99 years, upon the condition of their paying annually to the corporation $100, and furnishing in all cases of fire the necessary supplies of water. To accomplish this they were bound to place a fire-plug on each block along which water should be introduced, and to fill, free of expense, all such cisterns and reservoirs as might be constructed in future by the corporation, the water from them to be used only in case of fire. This company in 1820 transferred to Samuel W. Davies this privilege, he refunding to the company all its expenses incurred since the beginning of the work. July 1, 1820, the water was introduced into the upper and lower plains of the city, as was required by the ordinance. Subsequently to this the proprietor made repeated efforts to engage the citizens in the undertaking, and with scarcely a hope of being able to complete it, he offered the whole establishment to the council at a price stated to be below the actual cost. The proposition was submitted to the voters of the city, who decided against the purchase of a privilege which ought never to have been granted away. As a last resort the proprietor obtained during the winter of 1825–'26 an act incorporating the Cincinnati Water Company. Stock was immediately taken by a few individuals of the city to an extent sufficient to make all the improvements and additions necessary for completing the establishment.

Cincinnati claims the distinction of having given to the world the steam fire-engine. Until 1852 the putting out of fires was left to a volunteer fire department. Companies of 100 were formed, who worked for nothing, but asked subscriptions from citizens to buy engines, etc., and appropriations from the city to build engine-houses. This plan worked well enough when the city was small, but as it grew and its population became more mixed, it was found that the volunteer fire companies became nests of corruption, if not of crime. Men joined them for the purpose of pilfering from burning buildings. At last the evil became so great that incendiary fires were started in the interest of the evil-disposed of the volunteer fire department, and, notwithstanding the fact that many excellent citizens were members of the volunteer companies, the bad element predominated, and the city council resolved to buy the engines and establish a paid fire department. It was then that Mr. George Graham, still living, who was at that time chairman of the finance committee of the council, advanced $400 of his private means to A. B. Lotta, a machinist, in whom he had implicit confidence, to make the experiment of building a steam fire-engine. The first trial showed that in six minutes' time steam could be raised and water thrown 100 feet high. This was the first practical steam fire-engine. Lotta had an order to build a large one, and, insisting on making them self-propellers, built the "Joe Ross", at a cost of $14,000. Since then the self-propelling engines have been discarded.

Cincinnati's claims to immunity from fire rest on several grounds. Chief, in the estimation of the people, is her excellent fire department and her effective fire-engines, the product of municipal enterprise. Next is the material used in buildings, which are mainly of brick and stone. Another point in which Cincinnati is peculiar is that her engines do not depend on fire-plugs connected with water-pipes for a supply of water to the engines, but upon fire-cisterns, which are located at the corners of all the principal streets. Into them supply-pipes of half a dozen engines can be dropped at once, and the cistern itself can be kept full by opening a valve leading from the main supply-pipe in the street. By this arrangement there is never a lack of water, even when the whole fire department is called out.

Another cause that operates to prevent disastrous fires in Cincinnati is the absence of high winds. It is only on rare occasions, and then only for a short time, that any thing like a gale is blowing, since the hills on the valley of the Ohio river are so situated as in a great degree to break the force of winds coming from any direction.

Within recent years the most notable fires were the burning of Pike's opera-house in March, 1866, and the burning of the freight depot of the Marietta and Cincinnati railroad and the adjoining buildings in 1874. The burning of Pike's opera-house involved a loss of between $400,000 and $500,000. The fire of 1874 made a loss of three-quarters of a million.

As to the history of the schools of Cincinnati, only a few disjointed facts can be given. The ordinary schools of the early years of the city have already been mentioned. Of the higher schools, Lancaster seminary was the earliest. This institution went into complete operation in 1815 with 420 pupils. Four years later it was incorporated as the Cincinnati college.

About $40,000 had been subscribed for the foundation of a college and the erection of a college building, but, by reason of bank troubles, much of that subscription was never paid. Although part of the building was completed and the college was opened, yet in 1826 instruction was suspended for want of funds. It was reopened in 1836, and continued for two years, when it was again closed, and remained closed until 1841. The building was burned in 1845, and shortly afterward rebuilt. In 1869, after the building was again damaged by fire, it was remodeled into its present shape. The college holds a very liberal charter, containing a restriction only against the teaching of denominational theology. The value of its property is about $200,000. The income is about $10,000, and is used chiefly to support the Cincinnati law school and its library.

In 1830 the average number of teachers required in the public schools of Cincinnati was 22, at a cost of $5,190 per annum. In 1855, exclusive of expenditures for real estate and buildings, the actual maintenance of the schools

cost the city $120,787 29 for an average attendance of 10,537 pupils, being at the rate of $11 47 per pupil. In this is included the support of the high school, which cost $13,047 77 for an average attendance of 251 pupils, which was at the rate of $51 98 per pupil.

In 1860 there were 46 parochial and private schools and seminaries in Cincinnati, of which 27 were Roman Catholic, containing 9,600 pupils.

The first settlers of Cincinnati were emigrants from New Jersey and Pennsylvania. Then followed people from Virginia, Maryland, and New York. The New Englanders came later. These all supplied native American residents. The English and Scotch were the first foreigners; then came the hosts of Germans, who, in 1841, constituted one-third of the adult population. The Irish and Welsh also came early in the history of the city. But never has the original native population been supplanted by other nationalities. At the present time nearly one-third of the population is foreign-born. The proportion of the German element to the whole population at a few different periods is here given:

	Per cent.
Citizens of German birth in 1830 (estimated)	5
Citizens of German birth in 1840 (estimated)	28
Citizens of German birth in 1850	27
Citizens of German birth in 1860	30

Since 1860 the proportion of nationalities has changed but little.

Such is the history of Cincinnati. It covers but a single lifetime, for the first white child born in the place (William Moody, March 17, 1790) has just died (in 1879), yet it is a history in which is typified the growth of the West.

Many years ago Cincinnati began to be called the "Queen City". This name was given in recognition of the fine situation, the lovely surroundings, the excellent climate, the fertile soil of the neighborhood, and the bright prospects for the future greatness of the city, and also in appreciation of the early development of enterprise, culture, refinement, and prosperity among the citizens.

CINCINNATI IN 1880.

The following statistical accounts, collected and forwarded by Major W. H. Chamberlin, indicate the present condition of Cincinnati:

LOCATION.

Cincinnati lies on the north bank of the Ohio river, directly opposite to the mouth of the Licking river, and in the center of a large valley which is about 12 miles in circumference, its geographical position being north latitude 39° 6′, and longitude 84° 30′ west from Greenwich. It is nearly under the meridian of Lexington and Detroit, and about on the same parallel as Baltimore and Saint Louis.

The semicircular tract of alluvial or bottom land on which Cincinnati stands, rises in a series of terraces as it recedes from the Ohio river. The first terrace rises to a height of about 55 feet above low-water mark. The second is 100 feet above the first, and varies in width from 1 mile in the central part of the city to 5 miles up Mill Creek valley, narrowing suddenly to a few hundred feet from Sedamsville to the lower portion of the city limits. The principal portion is built on the second terrace, which terminates on the north at the base of steep hills rising 800 and 900 feet above tide-water, or from 400 to 500 feet above low water in the Ohio. These uplands have an undulating surface, generally receding as they reach northward, while on and beyond them are built Mount Auburn and Mount Adams, Walnut Hills, Corryville and Price's Hill, within the city, with Clifton and Avondale just outside. Some of the finest residences in the city are built here, as this section contains all the advantages of both city and country.

The Ohio river is here navigable, the public wharf extending from Broadway to Main street, a distance of 1,035 feet; but nearly the entire water-front of the city is available as a landing. The depth of water in the channel varies from 2 feet at extreme low water, to 62 feet during the floods, the average depth in 1879 having been 17 feet. Occasionally the river is obstructed by ice, or navigation is suspended on account of a low stage of water, but usually there is water communication with all points on the Ohio, Mississippi, and Missouri rivers, and their navigable tributaries. Regular lines of steamboats ply between Cincinnati and Pittsburgh, Wheeling, Louisville, Cairo, Saint Louis, Memphis, Vicksburg, and New Orleans.

RAILROAD COMMUNICATIONS.

Cincinnati has the following railroad facilities:

The Little Miami railroad, to Columbus, Ohio, 120 miles, is now leased by the Pennsylvania railroad, and forms part of the Pittsburgh, Cincinnati, and Saint Louis line.

The Marietta and Cincinnati railroad, to Parkersburg, West Virginia, 200 miles, is now leased by the Baltimore and Ohio railroad.

The Cincinnati and Baltimore railroad, to Ludlow Grove, 7 miles, connecting there with the Marietta and Cincinnati, and the Cleveland, Columbus, Cincinnati, and Indianapolis railroad.

The Cincinnati and Springfield railroad, to Springfield, Ohio, 80 miles, is leased by the Cincinnati, Cleveland, and Indianapolis line.

The Cincinnati, Hamilton, and Dayton railroad, to Dayton, Ohio, 60 miles, connects with roads to Toledo, New York, Indianapolis, Chicago, etc.

The Cincinnati, Indianapolis, Saint Louis, and Chicago railroad, between the points named.

The Ohio and Mississippi railroad, to Saint Louis, 338 miles, with branch to Louisville.

The Cincinnati Southern railroad, to Chattanooga, Tennessee, 335 miles.

The Kentucky Central railroad, to Lexington, Kentucky, 99 miles.

The Louisville, Cincinnati, and Lexington railroad, between the points named.

In addition to the above, the following-named narrow-gauge roads are in operation:

The Cincinnati and Eastern railroad, to Sardinia, Ohio, 66 miles.

The Cincinnati and Portsmouth railroad, to Bethel, Ohio, 36 miles.

The College Hill railroad, to Mount Pleasant, 10 miles.

The Cincinnati and Westwood railroad, between the points named, 8 miles.

The Miami Valley Narrow Gauge railroad will soon be completed to Waynesville, 40 miles.

TRIBUTARY COUNTRY.

The city is in the center of an agricultural district of great fertility, and covering a wide range of products. What is known as the bottom-lands along the streams in Ohio and Indiana are "self-fertilizing", and are among the most productive in the world. On the higher lands, in western and central Ohio and Indiana, the soil varies from reclaimed marshes to gravel and clay, adapted to grain, fruit, and grass. In Kentucky the surface of the country next the Ohio river is hilly, but at from 30 to 100 miles in the interior it is more even, and the soil is of that peculiar fertility pertaining to warm limestone formations, which gives it the name of the "bluegrass region". Within the range of 150 miles from Cincinnati can be found territory adapted to all classes of fruits pertaining to this climate, and to the successful production of wheat, corn, oats, barley, buckwheat, hemp, flax, clover, timothy, tobacco, and all the vegetables. It also includes, in Ohio and Indiana, a considerable portion of coal and iron lands, which are in process of development.

The industrial character of the country is mainly agricultural, stock-raising forming a feature of the Kentucky bluegrass region, as well as of the interior of Ohio. Coal-mining and iron furnaces form the chief industry in the district referred to, while the fine water-power along the Miami and Erie canal has offered opportunities for manufactures that have not been neglected. The paper-mills tributary to Cincinnati produce nearly 50,000,000 pounds of paper annually, and this, with all the products of the region already mentioned, finds a market in the city.

TOPOGRAPHY, ETC.

The following description of the geological and topographical characteristics of the site of the city is condensed from a paper kindly prepared by Mr. Florian Gianque, at the request of Major Chamberlin:

Geological.—One of the great folds of the earth's crust, much lower yet much older than the Alleghany mountains, passes through Ohio and Kentucky parallel with these mountains; and an area, composed of Hamilton and some other adjacent counties in these two states, is situated upon what was once its highest part. When this fold began, nearly all of North America was at the bottom of a rather shallow ocean, in which corals, shell-fish, and other forms of animal life were existing. Their secretion of limy matter, which became their skeletons and shells, being at or falling to the bottom of the ocean, and some of them becoming broken or ground up by the action of the waves, gradually formed, with others not thus broken, the materials which, by further upheaval of the kind described, have been lifted above the level of the sea, and which now compose the limestone rock of our hills.

The limestones and the intervening shales in the hills about Cincinnati constitute what the geologists call the "Cincinnati group of the old Silurian system". The area mentioned above was lifted out of the water and became an island, still surrounded by this ocean, in which animal life of various forms and kinds continued to live and die, and in which in many hundred, and in many places many thousand, feet of other rocks, containing animal remains of kinds differing from those of the old Silurian rocks, were deposited and formed. In course of time the folds of the Alleghanies, and later those of the Rocky mountains, and in time the entire region between these mountain systems, were lifted out of the water. Parts of these regions rose and fell slowly at different periods, being, possibly, more than once again sunk below and lifted out of the ocean. When out of the water, agencies of another kind began to operate. All that region embraced in the counties designated was then a level plain, without hills and valleys; but the rain that fell had to flow off, and as it did so it gradually began to form channels, the streams

uniting to form larger ones, till the valleys, much as we now see them, through which flow the Ohio, the Miamis, and the creeks, brooks, and rivulets which feed them, were outlined, and in the course of ages were finally widened and deepened to their present condition.

It was not the waters alone that excavated the valleys. The climate for a long epoch became and continued to be like that of the Frigid zone, and all the region north of this became a vast field of ice, forming glaciers of enormous thickness. Ice in the form of glaciers flows somewhat as pitch does on a warm day, possibly less than 1 inch a day; but owing to its great mass and weight it moves with tremendous force. In parts of Ohio it crushed and ground to gravel and to powder (or mud), and pushed before it, thousands of feet of solid rock. It deepened the valleys, lowered the hills, and, in places, filled up the old channels of rivers and cut new ones. These ice-fields never reached much, if any, farther south than the present site of Cincinnati, but a branch, at least, once filled and helped to plow out the valley of Mill creek.

This part of Ohio was then higher than it is now, and the channel of the Ohio, of the Miamis, and the main valley of Mill creek were at least 100 feet deeper than they are now. But as the land sunk and the ice melted, vast quantities of water, laden with sand, gravel, mud, and other *débris*, flowed down the valleys and assorted and deposited this gravel, sand, etc., filling them up in time to their present levels. These loose materials vary in character, depending upon the kind of rock from which they were ground up and formed. For instance, the gravel in the valleys of Mill creek, of the Miamis, and about Cincinnati generally, is of the limestones north of the city, while the blue clay, so called, of these valleys is composed of the shale which was interstratified with the more solid limestone rocks. The sand and yellow clays come from still farther north.

But in addition to the twigs and branches of trees found in the blue clay, there are well-defined layers of leaves, logs, stumps in position, and other evidences of forest growth and decay deep down below the glacial deposits; and these are found to be very widespread, as deep wells can be dug in few places in these valleys without striking them. Of late years a number of artesian wells have been sunk in Cincinnati, from which, at a depth of about 2,400 feet, there is an abundant and strong flow of water, highly impregnated with mineral and gaseous matter.

Topographical.—A person on the Kentucky highlands south of Cincinnati, viewing that city, would see before him an almost circular and amphitheater-like valley, somewhat more than 3 miles in diameter, surrounded by steeply sloping hills. To the east he would see a narrow opening through which the Ohio river flows into this valley, crossing it through a channel in the form of a bow, with its concave side toward the north, and flowing out through a similar opening in the hills to the west. To the right would be another entrance into this amphitheater from the south, from which the Licking river flows into the Ohio, and to the left he would see the valley of Mill creek opening from the north into the extreme western part of the circular area. To the right, north of the Ohio, and on the extreme east of this amphitheater, he would see a large ravine, cut into, but not through, the hills, and reaching the river, known as Deer creek. Between Mill creek and Deer creek, and perhaps a quarter of a mile north of the river, and extending to the foot of the hills, he would see a terrace comparatively level, yet with slope enough for good drainage everywhere, and whose average height above the low water in the river is about 110 feet. The tops of the surrounding hills are about 400 feet above the river, the highest point being 465 feet, or a little over 900 feet above sea-level.

Within this circular valley, south of the Ohio, are the Kentucky cities of Covington and Newport, and outside of it, stretching along the river, are the towns of Dayton, Fairview, Ludlow, etc., while north of the Ohio one would see Cincinnati, built compactly from the river's edge to the foot-hills, clinging to the steep hillsides and stretching over the hilltops, in that part designated as East and West Walnut Hills, Mount Auburn, Mount Adams, Corryville, and the contiguous but separate corporations of Avondale, Clifton, and others. East and west, between the river and the hills, and at the hillsides, would be seen the city extending for several miles each way, with important villages and towns thickly built along the lines of railroads entering the city through each of these openings.

But in Mill Creek valley are seen some low unoccupied grounds, subject to overflow during high water, across which, however, streets are graded and railroad embankments are built, and which is being steadily filled up and occupied. The fills must be made from 3 to 25 feet in height.

The terrace above mentioned, upon which the most important part of the city is built, is composed entirely of beds of sand and gravel, as is also the low ground between it and the river, thus giving excellent foundations and dry cellars, as well as healthful locations for residences and business houses. Advantage is taken of this by the latter class of structures, many of which have cellars and subcellars, in which goods are kept perfectly dry, though far under ground.

CLIMATE.

Highest recorded summer temperature, 103°; highest summer temperature in average years, 96°. Lowest recorded winter temperature, −10°; lowest winter temperature in average years, −1°. The influence of the adjacent waters is hardly perceptible, though malaria is supposed to arise from stagnant water left by overflows in Mill Creek valley. There are no marshes within the city limits, while the few small ones adjacent are not sufficient

to exert more than a local influence. The elevated lands tend to temper the extremes of temperature in the lower portions of the city. Winds from the southeast, south, and southwest bring rain, while those from the northwest, north, and northeast are usually followed by colder, clear weather.

STREETS.

There are 402 miles of streets in Cincinnati, 209 being improved and 193 unimproved. Of the improved streets 100 miles are paved with cobble-stones, 7 miles with stone blocks, 95 miles with broken stone (macadam), and 7 miles with wood. About 3 squares have been laid with asphalt block as an experiment. The accounts relating to the cost of the several classes of pavement are all kept by the front foot of each side of the street, and average as follows:

		Per square yard.
For cobble-stone pavement	$4 26, or about..	$5 75
For broken-stone pavement	2 12, or about..	2 80
For wood pavement	about..	5 00
For stone-block pavement	about..	7 25

No separate account is kept of the repairs. The cobble-stone or bowlder pavement is much easier to keep clean than either broken stone or stone blocks, but not so easy as the wood. This latter, however, becomes troublesome when it begins to need repairs, so that decided preference is given to bowlders. Nearly all the broken-stone pavements are in the suburbs, where the traffic is light. "Bowlder pavement finds almost universal favor. When well laid it is the best and cheapest. Experiments with asphalt blocks and limestone blocks have been made, but never to the disadvantage of a first-class bowlder pavement." The city engineer, however, differs decidedly from the above in regard to the stability of the bowlder pavement, and while he acknowledges that it possesses some qualities that render it desirable where a cheap pavement is necessary, he claims that it is not a good pavement for Cincinnati, the difficulty of securing good surface drainage and keeping it in repair being among his chief objections.

The principal material used for the sidewalks is brick, though there are many wooden sidewalks in the suburbs, and long stretches of freestone flagging in the business portion, with here and there samples of concrete. The latter, of improved quality, laid in diamond-shaped blocks of light and dark shades, is growing in favor. The city engineer says: "A serious defect in the construction of brick walks in clay soil is the scanty foundation, the general impression being that only enough sand is required for bedding the bricks, regardless of subdrainage. There should at least be 4 inches of clean sand under the bricks, and in some localities more sand or gravel should be used to insure perfect drainage."

Gutters in the older and broader streets are paved with the same material, but on all streets made or repaired during the past 10 years, the gutters are formed by a limestone curb and a flat limestone bottom. As thus constructed they are much more easily kept clean.

Tree-planting is not encouraged in the business parts of the city. In residence portions and in suburbs, trees are planted along the center line of the sidewalk, which is generally 12 feet in width. There are no grassed places in any of the streets. Streets are repaired by contract, each ward being a street-repairing district, and contracts are let to the lowest bidder for the year. The cost was, in 1878, $180,000; 1879, $179,404 31; and for the first half of 1880, about $90,000. "Contract work has been proved to be much more economical. Under the day-work system gross abuses arose, by reason of efforts to make political capital out of this branch of municipal work. The city is too large for one man, or even four, as was the plan before the contract system was adopted, to oversee the work to advantage. Contractors are paid so much per month, and it becomes their interest not to do unnecessary work, as was done under the former system, but to keep all streets promptly repaired."

A steam-roller has been used on many streets for several years, with uniformly satisfactory results. It is used first to roll the earth before it receives any part of the paving. In case of "bowldered" streets it has been used with excellent effect to fasten and smooth the bowlders, but its greatest efficiency has been shown in making macadamized road-beds. It reduces the surface to a hard, smooth condition, especially when a layer of gravel is first spread over the broken stone, and the wear on the streets is thus made much more uniform. Streets made in this way are said to keep in better condition, with half the cost for repairs.

HORSE-RAILROADS.

There are 76¾ miles of street-railways in Cincinnati that traverse the city in all directions. They have 264 cars, use 1,722 horses or mules, and give employment to 699 men. During the past year there were 18,593,787 passengers carried, the rates of fare being 5 cents cash, or 25 tickets for $1, except on one line that charges but 4 cents for cash fare, with 25 tickets for 90 cents. There are 4 inclined planes, connecting with the horse-railroads, and operated by steam, that lift passengers from the lower to the upper levels of the city. These inclines have an aggregate length of about 4,000 feet, have each 2 cars, except one, which has 4, and each employs 12 men. During the year 4,690,000 passengers were carried on the inclines, at a uniform rate of fare of 5 cents.

OMNIBUSES, ETC.

With the exception of the omnibuses running between the several railroad stations and the hotels, and two small suburban lines, there are no regular omnibus lines in the city. Street-cars are so abundant that they are sufficient "for all practical purposes".

WATER-WORKS.

Water was first introduced in 1826 by a private corporation, but in 1839 the works were purchased by the city. Their total cost has been $6,500,000. Water is taken from the Ohio river nearly opposite the center of the city, and about 5 miles below the upper city limits. There are two inlet-conduits of masonry 134 feet long, one being 10 by 21 and the other 19 by 20 feet. There are also two pipes, 40 inches in diameter, resting on the river-bottom, and extending to the channel. All the conduits have to be cleaned once a year to remove the river silt. Owing to the great rise and fall of the river, the pumps work in a pit 60 feet below the floor of the house, upon which the engines rest.

There are two reservoirs, the low-service one, on Third street, having a capacity of 6,000,000 gallons when 24 feet deep, and being 165 feet above the pumping works. The Eden Park reservoir is formed by a retaining-wall built of masonry across a ravine. The high-service consists of one duplex, non-condensing, horizontal engine, and one vertical compound engine. They take their water from the supply-mains of the Eden reservoir, under a head of 60 feet, and pump to two tanks on Mount Auburn, under a head of 340 feet.

The average amount of water pumped per diem is 17,000,000 gallons, the maximum being 24,000,000 and the least 11,000,000 gallons. During 1879 the average cost of raising 1,000,000 gallons 1 foot high was 6¼ cents; the yearly cost of maintenance, $178,175 42, being net expenses $72,445 36, interest $105,730 06; and the yearly income from water-rates, $442,378 47. There are 190 miles of distributing-pipe, varying in size from 3 to 5 inches, 789 hydrants, and 23,000 water-takers. There are about 500 water-meters in use, and, though they are not enough to affect the consumption of water, are found to be economical to the consumers.

GAS.

The gas-works are owned by private companies. Their daily average production is 1,232,876.7 cubic feet. The charge per 1,000 feet is $1 70 to private consumers, with 10 per cent. off for prompt payment, and $1 50 to public buildings. The city pays annually $29 each for street-lamps, 6,180 in number, which includes the cost of lighting, cleaning, and repairs. It is reported that the income from meter-rates during 1879, when the charge was $2 20 per thousand, was $700,000.

PUBLIC BUILDINGS.

The city owns and occupies for municipal purposes, wholly or in part, the city hall, house of refuge, city hospital, workhouse, city infirmary, public library, Hughes high school, Woodward high school, McMicken university, 36 school-houses, 9 police-stations, 21 fire-engine houses, and an observatory. The total cost of the above is stated to be $6,460,000. The city hall is owned and occupied entirely by the city, and cost, including land, $150,000, the building proper costing about $50,000.

In addition to the above, there is the United States government building, containing the post office and custom-house, situated in the center of the city, at the corner of Fourth and Vine streets. It is built in the Roman-Corinthian style, of sawed freestone, and has a porch with six columns. A new building is now being erected to contain the post-office, custom-house, and court-rooms. It will be 354 feet long by 164 feet, and four stories high, of granite, and in the renaissance style. It is on the square bounded by Main and Walnut, Fifth and Sixth streets. The county court-house, on Main street, is a large and handsome building, of Dayton stone, in the Roman-Corinthian style, and has a porch with six columns. The Chamber of Commerce, on Fourth between Main and Walnut streets, has a hall that will hold 25,000 people. The county jail is in the rear of the county court-house. The Masonic Temple, corner of Third and Walnut streets, is built of freestone in the Byzantine style. It is 195 by 100 feet, with two towers 140 and a spire 180 feet high. The interior is handsomely decorated. The Exhibition buildings, on Elm street, opposite Washington park, cover 3½ acres of ground, and have 7 acres of space for exhibiting.

PUBLIC PARKS AND PLEASURE-GROUNDS.

Cincinnati possesses a total area of 388 acres devoted to public parks. The largest, *Eden Park*, area 206 acres, is situated on high, broken ground to the northeast of Fountain square. It was originally a vineyard, but it has been set with shade trees, and laid out with roads, including a line on which cars run. The large reservoir belonging to the city water-works, and previously described, is so well arranged that it has the appearance of a natural lake. From this park visitors have a magnificent view of the city, the valley of the Ohio, and the surrounding country.

Burnet Woods Park, area 164 acres, is the second in size, and is situated on a hill-top, 2 miles north of the lower portion of the city. There are 50 acres covered by a natural forest growth, and the park is improved with drives and a lake. Free concerts are given here every week in summer, the expense of which is defrayed from a fund of $50,000, donated by the Hon. W. S. Groesbeck, for the purpose.

Lincoln Park, situated in the western part of the city, contains only 18 acres of land, but it has well-shaded walks and a lake.

The cost of each of the above parks, including land purchase and construction, was: Eden park, $1,500,000; Burnet Woods park, $1,000,000, and Lincoln park $300,000. The annual cost of maintenance for all parks is $11,900, and they are under the care of a board of public works, composed of 5 members. The designer of the larger parks was Mr. A. Strauch.

Washington Park, in the city, and *Hopkins Park*, on Mount Auburn, are two small pleasure resorts.

One of the chief works of art in the city is the Tyler Dairdson fountain, given to the city in 1871 by Henry Probasco, as a memorial of his brother-in-law, Tyler Dairdson. It stands in the center of the esplanade in Fountain square. The base and basin are of porphyry, quarried and polished in Europe. The fountain itself is of bronze, and weighs 24 tons. It is made of condemned cannon obtained from the Danish government. It was designed by August von Kuling, of Nuremberg, and cast by Ferdinand von Muller, director of the Royal Bronze Foundery of Bavaria. The cost of the fountain was $105,000 (in gold), and the total cost, including the esplanade, was over $200,000. The diameter of the basin is 43 feet, and the weight of the porphyry 85 tons. The height of the fountain above the esplanade is 38 feet.

PLACES OF AMUSEMENT.

The city contains the following theaters: Pike's opera-house, on Fourth street between Walnut and Vine streets, with a seating capacity of 2,000; Grand opera-house, on Vine and Langworth streets, which can accommodate 2,300 persons; Robinson's opera-house, on Ninth and Plum streets, which also seats 2,300 people; National theater, on Sycamore below Fourth street, which holds 2,500 people; Heuck's opera-house, with a seating capacity of 1,500, is situated on Vine and Thirteenth streets; Vine Street opera-house, on Vine and Canal streets, with a seating capacity of 1,200; Volks theater, seating 1,100, at No. 522 Vine street; the Coliseum, on Vine, near Twelfth street, seats 1,000; and Lookout opera-house, at Mount Auburn, with a seating capacity of 1,500. These theaters pay an annual license to the city of $50 each.

There are also the following concert-halls and lecture-rooms, not including those connected with churches: Music hall seats 4,428, and is on Elm and Fourteenth streets. It was built from funds given by Reuben R. Springer and other citizens for the use of the general public, at a rental only sufficient to cover the expense of its care. Dexter hall, seating 400, is in the same building; College hall, seating 400, is on Walnut between Fourth and Fifth streets; Melodeon hall, seating 500, is on Sixth and Vine streets; Hibernia hall, corner of Ninth and Plum streets, seats 500; Jefferson hall, corner of Twelfth and Main streets, seats 600; Turner hall, seating capacity 1,600, is on Walnut above Allison street; Arbeiter hall, on Vine above Allison street, seats 700; Apollo hall, seating 300, corner of Sixth and Walnut streets; Eureka hall, corner of Ninth and Walnut streets, seats 500; and Mozart hall, in the Grand Opera-house building, seats 500.

Ten years ago there were numerous beer-gardens in what is commonly called the "Over-the-Rhine" district, north of the Miami and Erie canal, which is occupied almost exclusively by Germans. The gardens were situated in the back yards of the different premises, and were fitted up with tables sheltered from the sun, where the customers drank beer and smoked while listening to bands of music. There was usually no charge for admission, the profits being made out of the beer, cigars, etc., sold. The beer-gardens are now much reduced in number, as the hill-top resorts become more attractive and popular. The chief town beer-gardens still remaining are, one on Vine street, which is handsomely fitted up, with accommodations for about 800 people; and the Atlantic garden, on Vine street, and reaching as far as College street.

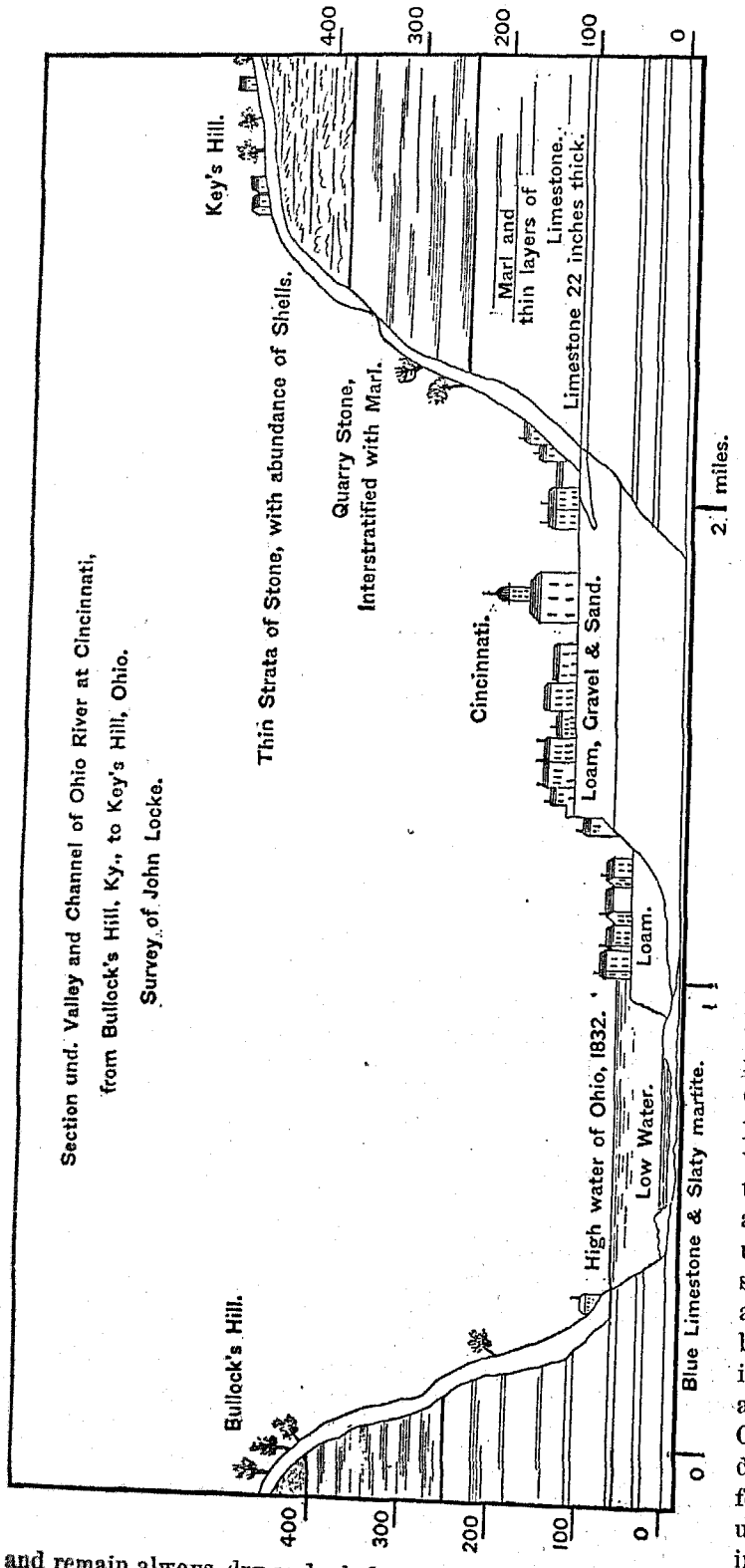
Among the hill-top resorts may be mentioned the following: The Lookout house, built 8 years ago at the head of the inclined-plane railway from Main street, is a large building which cost about $20,000. It is open on all sides and has a large garden attached. There is no charge for admittance. Pierce's Hill pavilion, opened in 1875, is at the head of the inclined railway leading from Eighth street. It was formerly used for picnics, no spirituous liquors being sold, but it has lately been turned into a beer-garden. The pavilion can be opened or closed, according to the weather, and there is a large garden attached, with an esplanade overlooking the city. There are seats inside for 1,800 people, and its cost was about $20,000. The Bellevue house, farther west, and at the head of the inclined railway from Elm street, was erected in 1876 at a cost of from $25,000 to $30,000. It is a wooden building with long verandahs and a large esplanade overlooking the city, and has accommodations for 10,000, with seats for 600 inside, and a large dancing-floor. The Highland house, in the eastern part of the city, adjoining Eden park, contains a theater, dancing-hall, indoor beer-hall, and large, handsome esplanade. It seats 10,000 people inside, and was built in 1877 at a cost of $40,000.

The customers of the old beer-gardens were principally Germans, while the frequenters of the hill-top resorts are almost entirely Americans, either residents of or visitors to Cincinnati. The entertainments are often of a high order, and are attended by the better class of citizens. Though the use of beer is almost universal among the patrons of these resorts, drunkenness is rare. In the place set apart for entertainment at the Highland house no beer is served. These are the most respectable of the beer-gardens; but there are also many smaller places where beer is sold and where the entertainments and the visitors are of a low and objectionable character. In addition

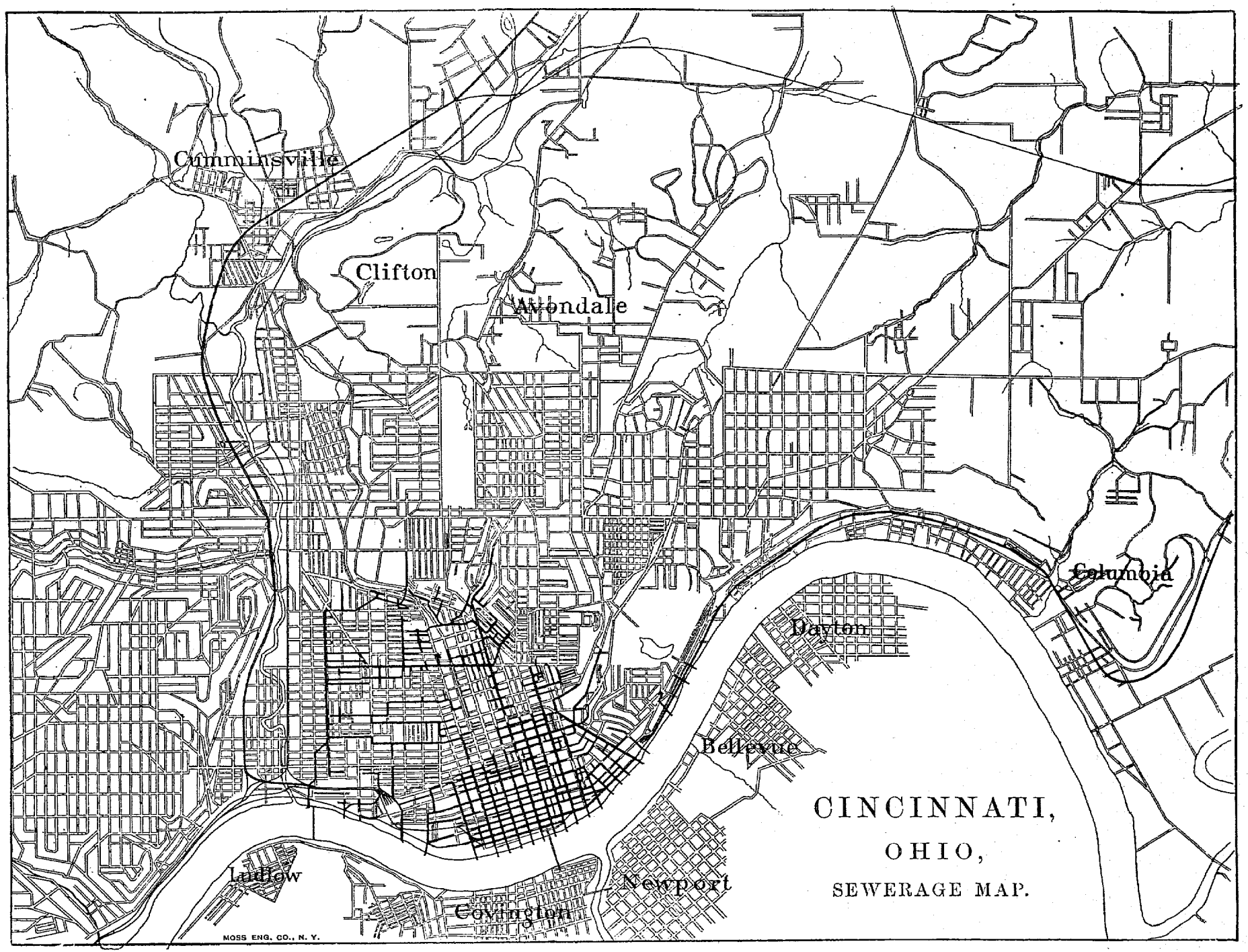
to the above-named public places of amusement, the wealthier citizens of Cincinnati have many clubs and places of resort, such as archery clubs, athletic clubs, gymnasiums, turn-verein, etching clubs, literary clubs, historical and horticultural societies, etc.

DRAINAGE.

The accompanying sketch, showing a cross-section of this portion of the valley of the Ohio, is copied from a sketch in the possession of Dr. T. C. Minor, of Cincinnati. It serves to illustrate the division of the city into its old parts—"the bottom," a plateau near the river, and about 40 feet above low-water mark, and "the hill" about 100 feet above low water, with the abrupt elevations on both sides of the river, reaching to an elevation of more than 400 feet. The recently incorporated suburbs, such as Walnut Hills and Mount Auburn, lie on this much higher land. Extreme floods of the Ohio cover the low district known as the "the bottom".



The district belongs to the great limestone region, and at Cincinnati we find horizontal layers of Silurian limestone of coarser texture and of varying degrees of hardness, the strata being 6 or 8 inches in thickness, sometimes more, with intermediate deposits of soft rock, clay, earth, slate, and shale, of all degrees of consistency, the softest material sometimes lying next the hardest rock. The proportion of rock to softer material is about as 1 to 10; hence a layer of rock may usually be found about every two or three, or perhaps five, feet. The valleys of the rivers have been cut through this bed of rock to a depth of from 400 to 500 feet. As the lower portions are less stable than the upper, the tendency has been to undermine the bottom, allowing the harder formation to fall or slide, leaving the banks steep and precipitous and exposing plainly to view the stratified structure of the bluffs. Such bare and precipitous hill-sides form a conspicuous feature in the scenery about Cincinnati, as seen from the river or from the opposite shore, whence the horizontal portions of the rock, with intermediate softer material, may be traced for an indefinite distance along the irregular bank. Most of the broad and deep valleys formed by the process above described now contain deposits of sand and gravel, together with rounded pebbles and bowlders brought down from the upper waters of the rivers, forming a drift extending to the original river-bottom, and reaching a height far above the highest floods of the present day. It is upon the elevated terrace thus formed (gravel and sand) that that part of Cincinnati originally known as "the Hill" is built. It is bounded approximately by Pike, Third, and Bay Miller streets. Its surface inclines slightly backward toward the bluffs. It is a notable feature of the upper terrace along the Ohio that streams coming down from the upland do not cross them directly, but follow along the foot of the bluff for greater or less distances. This upper terrace affords a deep dry subsoil for building, where cellars may be dug to any desired depth and remain always dry and wholesome. In the business parts of the city advantage is sometimes taken of this characteristic to construct two or three drains below the level of the street. This work is facilitated by the fact


Cumminsville
Clifton
Avondale
Columbia
Dayton
Bellevue
Ludlow
Newport
Covington
CINCINNATI,
OHIO,
SEWERAGE MAP.
MOSS ENG. CO., N. Y.

that excavations can be made in this material to a great depth without danger of sliding or caving before the cellar walls can be built, while the proportion of binding clay and loam mixed with the sand is not enough to prevent free drainage, the surface of the water-bearing stratum being 60 or more feet below the surface of the streets.

The lower level, "the bottom," is built on a very different formation. The deposit contains more clay, loam, mud, and sand, conforming more nearly to the alluvial deposits left by high floods at the present day. Cellars dug in this soil are damp, and when the river is high they are at times filled with water. In fact, large areas of this district are sometimes submerged for weeks together, especially along the valley of Mill creek, in the western part of the city. The descent from the upper to the lower terrace is steep and abrupt, while that from the surrounding hills, Walnut hills, etc., is still steeper and the difference of elevation much greater, transit from one level to the other being effected by inclined planes or elevators, operated by powerful stationary engines. Only by the courses of ravines and valleys in a few places can the suburbs of the city be reached by the ordinary horse-railways.

The accompanying map, showing the contour lines, indicates roughly the boundary of the original terraces, showing a greater area of bottom and terrace land in the valley of Mill creek than along the Ohio river. The bottom lands along the Little Miami extend around in the rear of the city until they meet those of Mill creek, so that the high bluffs slope and drain not only toward the Ohio, but back to the rear valley. This map also shows very clearly the precipitous nature of the slopes in some parts of the city, and the direction of the natural drainage. The original surface has in some places been somewhat modified by removing the crest of the ridge along Third street, and filling in adjacent low grounds to regulate the grade of the streets leading to the river. Near the foot of the bluffs the earth and clay from the hill-sides has been graded or washed down until the gravel has in some cases been buried beneath the reach of ordinary cellars, the flow from the higher land keeping the soil more damp and less perfectly drained. Much of the low ground adjacent to Mill creek on the west side of the city has been filled in to form streets and building lots, the material used being sometimes earth and rock from the hill-sides, from excavated cellars, and from streets the grade of which has been lowered. A considerable portion, however, consists of ashes, street dirt, and the ordinary waste of a city. Many of the minor streams and ravines have been obliterated by grading. Some of these ravines in the valley of Mill creek once contained running streams—notably one which was known as Bloody run, flowing through the 14th and 23d wards, in the vicinity of York and Linn streets, and receiving the waste from slaughter- and packing-houses.

As the flow of the natural streams became obstructed by the filling of lots and streets, and as their waters became polluted, they were converted into large stone drains, constructed of limestone, and not suitable for use as sewers. Some of them have been cut off and their flow has been diverted into modern sewers of better construction. Some have been abandoned and their location has been lost. Others are still doing duty as drains and as sewers. In the filling of ravines and low places the provision of underdrainage has often been neglected, and much of the lower part of the city, once submerged during high stages of the river, has been intersected by elevated streets and railroad embankments, forming reservoirs to collect rain and surface water. The water thus ponded becomes stagnant and filthy, and the adjacent filling of ashes and other loose material becomes saturated, causing damp and flooded cellars. As the water subsides by evaporation, or by the falling of the river, a residuum of mud and filth is left.

One instance may be noted of the disappearance of a considerable stream in the valley of Deer creek, in the easterly part of the city. The stream was taken into a large sewer in Eggleston avenue, and its valley has been filled, so that the branch has entirely disappeared, and is said to have been covered to a depth, in places, of 50 feet. The main branch of Deer creek now flows through a deep valley between Eden park and Mount Auburn. It is still visible in places as an open stream, finding its channel in other parts of its course, through old stone drains, across streets and lots many feet below the surface. The old drains form no part of the sewerage system of the city, and they are rapidly falling in pieces.

Some culverts have been built by the Narrow Gauge Railroad Company where their embankment crosses branches of the stream. There are also culverts under streets, and private owners construct stone drains under their lots as they fill them in. All this work is done without system as to size or level, and can not be made useful as a part of the sewerage of the city. Deer creek is, ordinarily, a small stream, and it receives waste from tanneries and slaughter-houses, as well as much sewage and yard-wash from houses at Mount Auburn, which have no other drainage. Its flow is about as foul as that of most sewers.

SEWERAGE.

The sewerage of Cincinnati comprises 47⅓ miles of sewers of all kinds, as indicated by the map. There are 8.4 miles of large sewers, exceeding 4 feet in diameter, 14.5 miles of circular brick or stone sewers, from 2 to 4 feet in diameter, and 24.4 miles of vitrified pipe. The sewer area is about 2,000 acres in extent, with a population of about 160,000.

About 18 miles of the work had been constructed up to 1871, and about 29 miles have been constructed during the past 10 years, over 7 miles in 1880. The number of catch-basins and manholes could not be ascertained. This comparatively small area, lying mainly below the bluff and east of Mill creek, is occupied by about two-thirds of the population of the entire city.

There are three principal drainage districts. The first embraces those sewers which flow from their summits in straight lines direct to the Ohio river, occupying 16 streets. Their sizes vary from 2 feet to 5½ feet in diameter at the outlet. Second, sewers in the valley of Deer creek and its tributaries, discharging through the great stone sewer, 12 by 14 feet, in Eggleston avenue, just below the pumping-station of the water-works. This system now comprises 3¾ miles of brick or stone sewers, and 5½ miles of pipe sewers. The third, and most extensive system, drains a large area in the western part of the city, the natural discharge of which is to Mill creek.

The main sewers of the first system are short and large, draining small areas, their laterals extending only half a block each way. Their fall is very irregular, but usually very steep, the flow being rapid and strong. The descent from the summit at Sixth or Ninth street is comparatively gentle as far as Fourth street, whence there is a sudden descent of from 4 to 6 feet per hundred as far as Pearl or Second street, thence the descent is more gentle for two or three squares, until they plunge down the steep river-bank, entering the river near low-water mark. Their greatest length does not exceed three-quarters of a mile. Their current is rapid, and there seems to be no deposit of organic matter. Sewers in many parts of the city are effectively flushed by the discharge from hydraulic elevators.

A curious condition was found in the main sewer in Sycamore street, the flow of which is not rapid. The water was not excessively foul, but the whole interior of the sewer and manholes was coated with a thick gelatinous substance of a yellow color, hanging from the top and sides in strings and festoons, adhering tenaciously to every thing it touched. It somewhat resembled the slimy deposits caused by soil-water leaking through the wall, but was much more abundant. The sewer had no ventilation, the manholes being close, with tight covers, and the outlets being submerged. The same condition is said to exist in other unventilated sewers of the city. It is thought to be a fungous growth due largely to the condition of the atmosphere of the sewer.

The main sewer in Eggleston avenue is well built of large blocks of dressed limestone, neatly finished inside; its cross-section is that of two semicircles with 6 feet radius, connected by vertical walls 2 feet high, making it 12 feet wide by 14 feet high. Some of the branch sewers discharging into this main deliver by a fall at manholes, and others discharge over a flight of stone steps; the work seems all to have been done in the best manner. The sewer in Deer Creek road is of stone for a short distance from the Eggleston Avenue main; above that it is of brick. The bottom of this sewer is covered 2 or 3 feet deep in places with gravel and large stones. Its arch is badly damaged by the uneven pressure caused by a heavy embankment on one side. Cracks have opened in the crown of the arch, and the injury seems to be increasing. This sewer is intended to remove the future sewage of Walnut hills and Mount Auburn, now entirely without sewerage, though thickly built over and having a large population.

The sewer in Sycamore street presents some interesting features of construction. Below Abigail street it was tunneled through sand and gravel under the canal and around a curve into Court street, and thence to the Eggleston Avenue main, near Broadway. It is a circular sewer 8 feet in diameter, with walls and three concentric rings of brick. The tunnel was driven with a wrought-iron shield, supporting the sand until the masonry was laid, but within it. The shield was then advanced 2 feet by means of hydraulic jacks, and 2 feet more of brick-work was laid within it as before, the sections being connected by toothing. The face of the cut was maintained in a vertical position by shelves in the shield, allowing the sand at the head of the tunnel to be worked out between the shelves. The work is not very true to line, and presents some rather abrupt changes of grade, but it has apparently maintained its shape, and shows no signs of weakness. The western district (the third) lies principally north of Eighth street and west of Vine street, and extends to the foot of the bluffs. Some of the old rough-stone circular drains, constructed to take the water of former brooks, now receive a considerable amount of sewage. They are usually made to discharge into sewers of the new system, in which a large collecting sewer has been laid under McLean avenue. Its sectional area is about equal to a circle 12 feet in diameter, and its fall is rapid. As it approaches the river it is changed to a sewer 7 feet high and 24 feet wide. At the time of the examination it was full of back-water for nearly a mile from its outlet. When in this condition it is subject to much deposit.

Another sewer of this district, in Liberty street, of brick, is 9½ feet in diameter.

W. H. Baldwin, esq., who made the examination of the sewerage of Cincinnati, submits the following general considerations:

The situation of the city is remarkably favorable for good surface drainage, being sufficiently elevated to afford any desirable rate of fall into its main sewers. The streets running toward the river are steep, and at intervals almost precipitous, while those running parallel to the river are nearly level, and drainage is secured by giving them a rise in the middle of the square, with a considerable fall toward the streets on either side, giving an undulating or wave-like appearance, favorable for drainage, but not conducive to good appearance, especially when there are large buildings in the block. The arrangement of the main sewer in each street, with laterals right and left to the middle of the block, is favorable for sewerage, as it gives a short and direct run to the river, allowing the sewage no time to remain at rest and stagnant, and but little time to stay beneath the surface of the street before it is shot out into the river.

That part of the city which inclines back from the river toward the foot of the bluffs is intended to be drained in substantially the same manner, but the main sewer in each street below Vine usually pitches toward the west, being intended to receive laterals from each side in the cross streets and to discharge into the McLean Avenue collecting sewer. Very few laterals have yet been laid in this part of the city, the water now flowing along the street-gutters and carrying with it the house-slops poured into the gutters along the way, discharging eventually into the basins in streets having main sewers.

Main sewers in the back part of the city usually have a longer run and a less pitch than those on the river front, but they are washed out by large quantities of water from breweries, many of which have artesian wells, and use much more water than if they had to pay for it at usual water-rate prices. Most of the larger mains in the back part of the city are also washed out by water from natural water-courses, coming down from the bluffs.

So far as can be observed, the sewers are well built, of good material, substantially put together, and only in a few instances have signs of settlement or giving way been observed. Foundations are usually good, though occasionally beds of quicksand have been encountered, and in some places sewers have been built on made ground. The interior of the sewer is generally free from deposits of organic or decomposed matter, and the top and sides are, with few exceptions, clean and dry. * * * The steep pitch of most sewers in Cincinnati has demonstrated the unsuitableness of brick for their water-way, however hard or well burnt, and all sewers now constructed of more than 2 feet diameter have the inverts made of stone. Many sewers have been provided with stone inverts after a few years of use. Few, if any, of the sewers have less inclination than 1 to 200; they are usually made substantially parallel to the surface of the street.

The ventilation of main sewers is by perforated manhole covers. The excessive rise of the river sometimes keeps the outlets closed for many weeks at a time and interferes with their ventilation. Some sewers, built many years ago, have tight manhole covers, and are badly ventilated.

The cleaning of sewers, basins, and streets is all under one management, and no information can be given as to the cost of each part of the work. * * * Dead ends of some sewers, having but little street water to wash them out, sometimes require to be flushed. This is usually done by hose from a convenient street hydrant. * * * The deposits in pipes usually consist of street mud, sand, and gravel washed in through the inlet-basins. Obstructions in larger sewers usually consist in paving- and building-stones, macadam, gravel, and quarry-waste washed in from the hillsides. These are removed with shovel and bucket, or wheelbarrows. While the sewers extend over an area of about 3 square miles (2,000 acres), there are districts within this area, sometimes embracing many squares, which are entirely unsewered, and such undrained districts are in the most densely populated parts of the city. The district lying between Fifth and Liberty streets, from Bay Miller street to Eggleston avenue and Sycamore street, including about 600 acres, which contained, in 1879, an aggregate of 1,618 tenement houses, with 31,493 inmates, had only 125 houses drained by sewers, 1,515 being furnished with ordinary back-yard vaults. The soil of this district is gravel and sand, and vaults are purposely constructed so that most of the liquid contents soak into the ground. The laundry, kitchen, and other liquid waste is thrown into alleys and street-gutters, whence it is presumed to find its way to sewers, but most of it evaporates or soaks into the ground. The effect of these combined influences, together with that of a similar condition among the remaining 50,000 population of this district, not living in tenement houses, but similarly situated as regards drainage, is extremely bad. The sewers of Cincinnati in the district drained are good, but there are not enough of them.

All of that part of the city lying outside of the boundaries of the 2,000 acres above described is practically without sewerage works, and is undrained except by the street-gutters. All the lower part of the city west of McLean avenue is without sewerage, and much of it is densely populated.

The valley of Mill creek, west of McLean avenue, and all north of Harrison avenue is without sewerage, and in this valley are the stock-yards and packing-houses where hundreds of thousands of animals are slaughtered annually. Most of the waste from these establishments is utilized, but a vast amount is thrown away and washed directly into Mill creek, making it an open sewer. Besides the manufacturing industries, there is a large population along this valley.

A considerable population lives in the upper part of the city above Eggleston avenue. Its whole drainage is delivered into the Ohio river above the intake of the water-works.

Dr. T. C. Minor, health officer, in his report for 1879 gives a minute description of this part of the city. He says that house-drainage and slops are discharged into privies and cesspools in the back yards; that these are overflowed and the contents washed out by heavy rains, leaving them filled with water, which becomes foul and offensive before it has time to soak away; that streets and back yards are washed into the river, and all combine to pollute the water supply.

Mr. W. H. Chamberlin, who collected much statistical information concerning Cincinnati, says with regard to sewerage:

From time to time, as occasion required, small stone sewers were built, and finally a sewerage committee was appointed by the city council and the work of sewerage was fairly begun. This committee in 1869 had made many contracts, and had entered upon the work of building the great sewer in Eggleston avenue, which was to carry the water of the Miami and Erie canal underground to the Ohio river.

The legislature then created a board of sewer commissioners, who were to have at their disposal the sewerage fund, and were to employ an engineer and to prepare plans for the entire sewerage of the city. This board organized in 1870, and from that date begins the systematic work of sewering Cincinnati. The subsequent five years were busy ones in building sewers. The property-holders were anxious to have these necessary improvements, and petitions were presented to the commission for the improvement of different localities. The city had to pay the excess of cost above $2 per linear foot, and for a time the property-holder imagined that his assessment of $2 per front foot was all he had to pay. But in time the taxes began to be burdensome, and the large sums paid out by the sewerage commission, which in 1874 reached the sum of $256,000, called attention to that source of expenditure, and by legislative action the sewerage commission was abolished and its work assigned to the board of public works. The sewerage levy, however, was summarily stopped, and for several years no progress was made. In time, however, the levy was made available again, and regular sewerage work was resumed.

The total length of sewers constructed in Cincinnati to December 31, 1880, is 47,384 miles. The number of available sewer connections is 20,800. The number of connections made to date is 2,980. From this it appears that property-owners are slow to avail themselves of the opportunity of using the sewers, there being an average of only 63 connections to the mile, or, counting both sides of the street, one connection for every 167 feet. Even where connections are made there is a failure to make them complete, so that surface-drainage still runs across the sidewalks in covered or open ditches to the gutters.

Mr. Chamberlin gives the cost of each inlet-basin and its connection with the sewer as $66, and the cost of each manhole of average depth as $42.

The mouths of the sewers are exposed during low stages of the Ohio river, into which all the sewage of the city ultimately flows.

The cost of the work is assessed upon abutting property to the amount of $2 per front foot; all excess of that assessment is paid by the city.

The following table gives the contract prices for sewers built in 1880:

	Cost per linear foot.
2 feet, brick, complete	$3 00
2½ feet, brick, complete	3 50
3 feet, brick, complete	4 00
3½ feet, brick, complete	5 00
4 feet, brick, complete	6 50
4½ feet, brick, complete	7 00
5 feet, brick, complete	8 00
5½ feet, brick, complete	9 00
6 feet, brick, complete	10 00
12-inch pipe, complete	1 50
15-inch pipe, complete	1 75
18-inch pipe, complete	2 00
21-inch pipe, complete	2 50
24-inch pipe, complete	3 00
For each branch on 12-inch pipe	80
For each branch on 15-inch pipe	1 00
For each branch on 18-inch pipe	1 50
For each branch on 21-inch pipe	2 00
For each branch on 24-inch pipe	2 50

For each 6-inch slant in brick sewer, 50 cents.

For each 12-inch slant in brick sewer, $1 25.

Colonel A. L. Anderson, civil engineer, has expressed the opinion concerning the sewerage of Cincinnati that the plan is fairly well made and the workmanship has been good, but that it was a mistake to construct such a large proportion of main sewers at the outset, throwing a heavy assessment on abutters for expensive works of which the cost should be charged over the whole district drained. Also that the sanitary effect of the sewers is much of it lost by the failure of property-owners to make the necessary house-connections.

The consequence is that fecal matter is collected in vaults, whence it often permeates the soil, and so vitiates cisterns as well as the atmosphere. Besides this, the drainage from roofs, and the house and kitchen slops run over the sidewalks into the gutters, where, in hot weather, mixed with the natural filth from the streets, it fills the air with unwholesome exhalations.

In Colonel Anderson's judgment, the worst feature of the system is its inlet-basins, which become receptacles of the dirt and whatever loose substances may get into the gutters, and soon become "a stench in the nostrils of all who pass". Then this decaying mass of filth must be taken out by hand—an expensive operation—and one which during its progress further vitiates the air in the vicinity. A much more effective plan, and of much greater sanitary value, is to have direct openings into the sewers, which will admit every thing that comes from the gutters, and allow it to pass off immediately through the sewer. This plan assumes that the streets shall be kept reasonably clean, and that no objects shall be permitted to clog the sewer-inlets. It also assumes that a thorough system of sewer ventilation shall be established, either by perforated manholes at the street intersections, or, better still, at all the house-connections by pipes running to the top of the roof.

CEMETERIES.

There are 48 cemeteries and burial-grounds connected with Cincinnati, 31 being within the corporate limits (23 of which are no longer used for interments) and 17 in the suburbs. The following are now used:

Spring Grove Cemetery, area 600 acres, is situated in the Mill Creek valley to the north of the city, and was founded in 1844. The size of lots varies from 200 to 10,000 square feet, and the cost of the same is 30, 40, and 50 cents per square foot. The cost of single interments ranges from $6 to $10, and the annual cost of maintenance averages $50,000. It is estimated that 35,000 burials have been made here.

Saint Mary's Cemetery (Roman Catholic), area 60 acres, is situated outside the city and north of Avondale. It was founded in 1877, and the number of interments to date is said to be about 2,000. Lots are from 200 to 2,000 square feet in size, and cost from 25 to 30 cents per square foot. Single interments range from $3 50 to $6.

Reformed German Protestant Cemetery, area 31¼ acres, is located between the towns of Clifton and Avondale, north of the city. It was founded in 1844, and the number of burials made here is 18,000. Lots contain 256 square feet, and cost from 50 to 80 cents per square foot. The cost of single interments ranges from $4 30 to $7 30, the depth of graves being from 4 to 6 feet.

Saint John's Cemetery (German Catholic), area 22 acres, is situated outside the city, near Saint Mary's Cemetery. It was founded in 1844, and contains about 35,000 graves. Lots are 16 feet square, and cost $75 each. Single interments cost from $3 50 to $6.

German Cemetery, area 6 acres, is located in Avondale, and is not much used. There have been about 3,000 interments made here.

United Jewish Cemetery, area 13 acres, situated north of Woodburn, on Rural avenue, was founded in 1857, and is used by two congregations, about 1,200 burials having been made here. Lots range in size from 260 to 700 square feet. Single interments to members of the church are from $50 to $100, but the Jewish poor are buried free of charge. All the dead in the cemetery are buried with their feet to the east.

Calvary Cemetery (German), adjoining the above, has an area of 12 acres, and contains the remains of about 15,000 persons. Lots are 16 feet square, and cost 20 cents per square foot; the price of single interments is from $3 50 to $7.

German Protestant Cemetery, between Billings and Lincoln streets, in the city, was founded in 1843, and contains 38 acres. Lots are 16 feet square, and vary in price from 20 to 35 cents per square foot, the price of single interments being from $5 30 to $8 30.

Wesleyan Cemetery (Methodist Episcopal), situated on the west fork of Mill creek, has an area of 25 acres, and was founded in 1843. Lots are 16 feet square, and cost from 20 to 25 cents per square foot; single interments, $5 to $7; number of interments estimated at 24,000.

Friends' Cemetery, area 5 acres, is situated on the west fork of Mill creek, just below the preceding one. It is but little used now.

New Joseph Cemetery is situated outside the city, and 3 miles due west of the Old Saint Joseph, and was founded in 1858. It has an area of 65 acres, and so far about 17,000 interments have been made therein. Lots cost 25 cents per square foot; single graves $5, and burials $1 to $3.

Jewish Cemetery, in Delhi township, west of the city, contains three separate burial-places, viz: (*a*) Judah Touro, founded in 1856, has an area of 7 acres, and contains 313 interments. Lots are 200 feet square, and cost 10 cents per square foot. Burials are free to members or their families, while strangers or non-members are charged from $3 to $5 for a single grave, with interment. (*b*) K. K. Adeth Israel was founded in 1856, and so far there have been 406 burials. There are no lot-owners, burials being almost always made in rotation, in the order of their occurrence, and the expense is defrayed by the congregation. (*c*) Adeth Israel, area 1½ acre, was founded in 1856, and is similar to (*a*). In this triple cemetery a guard is hired to watch by night, for from ten days to two weeks after each interment, to prevent grave-robbing.

Colored Baptist Cemetery, situated 2 miles west of the city, contains 16 acres of land, divided into 528 lots. Total number of interments, about 700. Price of single graves, $2 50 to $8.

Colored American Benevolent Association Cemetery, situated in Avondale, contains about 6 acres and 3,000 interments.

Saint Joseph and Saint John's Cemetery (Roman Catholic), area 20 acres, is situated about 4 miles north of the city, and is not now used.

Saint Joseph Cemetery (German), in the western part of the city, near Price's hill, has an area of 33⅓ acres, and was founded in 1843. Total interments, about 25,000.

Saint Matthew's Cemetery (German) is situated on the New Baltimore pike, in the northwestern part of the city.

Presbyterian Cemetery, *Old Fulton Cemetery*, and *Baptist Cemetery* are the first cemeteries that were established in the Northwest territory, and they are still used by the descendents of the early settlers. They are all together, in the southeastern part of the city, near the river.

Potter's Field, in Delhi township, is used by the city for the burial of its pauper dead.

Saint Jacob Catholic Cemetery, area 3 acres, is situated in Green township, northwest of the city.

Fulton Cemetery, area 4 acres, is situated on the Madison pike, just outside the city. It was founded in 1820, and is now but little used.

Baptist Cemetery, area 3 acres, is situated northeast of the city, on Deer creek. It is well kept up as a country church-yard and is sometimes used by the city.

Mount Washington Cemetery, 3½ miles east of the city, is sometimes used by the inhabitants of the 1st ward. In the Jewish cemeteries the depth of the graves is always 6 feet. In all the others the depth is 5 feet for a child and 6 feet for an adult, very few reporting a less depth than 5 feet. In all well-regulated cemeteries, which includes all these now in use, permits are first required of the secretary. In the Roman Catholic cemeteries the secretary must first obtain a permit from the priest. In the Jewish cemeteries the sexton must first obtain a permit from the board of health before making an interment.

In the following cemeteries (all but one being within the corporate limits) interments are no longer permitted:

Name of cemetery.	Area.	Interments remaining.	Location.	Founded.	Abandoned.	Removals to other cemeteries (estimated).	Remarks.
	Acres.						
Old Saint Joseph (Irish)	14	1,600 (record)	Cemetery road, Price's hill	1844	1864		
Friends'	1	None	Poplar, corner of Freeman street			500	
Saint Peters	15	7,000 (accurate)	Lick Run pike, near Vanhart street	1830	1848	7,000	
Potter's Field	10	Very many	Freeman street	1840	1852		Near Lincoln park.
Catholic	3	Very few	Between Mound and Cutter streets	1829	1849	(?)3,500	
Methodist Episcopal	3	None	Between Mound and Cutter streets	1829	1851	(?)2,500	
Baptist	3	None	Between Mound and Cutter streets	1829	1851	2,000	
Jewish	0⅛	200 (estimate)	Central avenue and Chestnut street	1838	1849	80	
Potter's Field	3¾	Very few	Fourteenth street and the canal		1836	(?)1,000	Built over.
Presbyterian and Episcopal	7	None	Fourteenth street and the canal	1829	1843	5,000	Washington park.
Friends'	0½	Very few	Corner of John and Fifth streets			400	
Catholic	1	Very few	Vine, corner of Liberty street			800	
Presbyterian, First Church	2	Very few	Fourth, corner of Main street	1798	1824	2,000	
Methodist Episcopal	0½	Very few	Fifth street and Boundary	1807	1829	400	
Old Family	0⅛	None	Fifth street and Boundary	(*a*)		12	Platt family.
Methodist Protestant	10½	2,400	Burnet avenue and Sycamore street	1833	1873	600	4 acres sold.
(Nameless)	0¼	Very few	Morton street, near water-works	(*b*)			
Ruddle Family	2	Very few	Between Burns street and the canal	1810	1860	125	
Presbyterian	1¾	Very few	McMillan, Lane, and Jones streets	1829	1860	800	
Old Family	0$\frac{5}{10}$	70	Linwood road, near toll-house	(*b*)			
Methodist	0½	Very few	Grandin road, near Edward's road	1810	1861	300	Sold for street taxes.
Potter's Field	7	Few	Near eastern limits of the city	(*b*)			Now a pasture.
Jewish	2½	1,000	In Clifton, outside city limits				

a Very early. *b* Very old.

A summary of the several cemeteries in Cincinnati shows that there are 8 cemeteries within the city limits having an aggregate area of 112⅔ acres, with a total interment of 82,500; 17 cemeteries without the city limits having an aggregate area of 898$\frac{5}{6}$ acres, with a total interment of 148,900, all now in use, and 23 cemeteries, all but one within the city limits, having an aggregate area of 88½ acres, with a total interment of 30,000.

MARKETS.

The following table shows the principal markets in the city:

Name.	Location.	Ground area.	DIMENSIONS AND COST OF BUILDING.				No. of stalls.	No. of benches.
			Width.	Length.	Height.	Cost.		
		Feet.	*Feet.*	*Feet.*	*Feet.*			
Pearl Street market	On Pearl street, between Main street and Broadway	42 by 400	42	300	20	$7,000	60	62
Sixth Street market	Between Sixth, Main, Mound, and Clark streets	40 by 350	32	340	18	8,000	48	52
Court Street market	On Court, from Main to John streets	40 by 400	28	400	18	7,000	44	48
Findlay Street market	Between Findlay, Vine, Elm, and Race streets	40 by 360	40	360	30	12,000	48	52
Wade Street market	Between Wade, John, Cutter, and Liberty streets	32 by 160	28	160	20	5,000	20	20

The buildings all stand in the center of Market space, with room on each side for wagons. Pearl Street market has 40 feet on either side, the whole length of the building. Sixth Street market has the same, and also an open space 120 by 400 feet on the adjoining square. Court Street market has the same, with an open space in adjoining square 126 by 190 feet. Findlay market has a space 113 by 332 feet, while Wade Street market has a space 140 by 250. In addition to the above, space in all the streets adjoining the markets is set apart by ordinance for the use of wagons.

The annual rental of stalls and benches in the different markets is as follows: Pearl Street and Sixth Street markets—stalls $150, benches $30; Court Street market—stalls $75, benches $15; Findlay Street market—stalls $50, benches $15; Wade Street market—stalls $25, benches $5. No separate accounts are kept of the rentals of the different markets, but the total receipts from this source during 1880 amounted to $14,205.75. The market hours are: From October 1 to April, from daylight till noon, and during the remainder of the year from daylight till 10 a. m. every day in the week except Sunday. Findlay Street and Sixth Street markets are open from 3 to 10 p. m. on Saturdays.

The public markets are long sheds supported by brick columns, well roofed, and the ceilings plastered. On a line with the brick columns, which stand about 8 feet within the eaves of the roof, there is a partition which forms

the back of the inner stalls, passage-ways being left at convenient distances. The inner stalls, which are used solely by butchers, are about 10 feet in length, and have each a bench in front for cutting meat. The outer stalls are designed for the sale of vegetables; but many of them are occupied as lunch counters, as the vegetable dealers prefer to take position along the sidewalks.

In closing his report on the subject under this head, Major Chamberlin says:

The public markets in Cincinnati are in a state of decadence. They could be entirely abolished with very little inconvenience to any one. The original theory that the market-houses should provide an inexpensive exchange between the producer and the consumer has been abandoned in practice, for during the greater portion of the year the market is used by hucksters, or middlemen, who buy of producers. Besides, the location of the markets is such as to render them practically inaccessible to a large, if not the greater, portion of the population. Consequently "daily markets", as they are called, are abundant all over the city, where every thing needed in families in the way of meats and vegetables, as well as groceries, is kept for sale. These *green-grocers* buy in the public markets and deliver their goods to their customers. There are no statistics upon which to base an estimate of the proportion of the retail supply of meats, poultry, fish, and vegetables by the public markets compared with private markets, but taking the above facts into consideration it seems fair to say that about one-tenth of the supply is from the public markets. This perhaps should be modified during the later summer months and early fall, when wagons from the country line the streets for miles on market-days. But even then the consumers do not form the larger portion of the purchasers. All the green-grocers, all over the city, go to the market daily for their supplies, and their profits in many cases simply amount to a fair payment for drayage and delivery. At the time of the year referred to the supply of this market is not excelled anywhere. The adjacent country is largely devoted to raising fruits and vegetables for Cincinnati, and in quantity and quality the supply can hardly be excelled.

As a whole, the city of Cincinnati is abundantly supplied with the best quality of meats, fruits, and vegetables, and generally at most reasonable prices. Its location makes it easily accessible from the South and the North, and it becomes a distributing center for the products of the different sections of the country. Its railroad connection with the South brings southern products here in good time and at low rates, and its close connections with the lakes gives it always a bountiful supply of fish.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority of Cincinnati is vested in a board of health, an independent body composed of 6 members, appointed annually by the common council, with the mayor as member *ex officio*. The act providing for a board of health does not fix the number of physicians to be included in the membership, that matter being left to the council; for the present year, however, there is one physician in the board. The ordinary annual expenses of the board, when there is no declared epidemic, amount to $15,526 55 (for 1879) and $24,918 59 (for 1880), being for salaries, medicine, and care of indigent sick, surgical appliances, advertising, printing, stationery, etc. During an epidemic the board can increase its expenses practically to an unlimited amount, it being the duty of the city council to make all necessary appropriations to meet such expenses. During 1879, when yellow fever prevailed in some of the Southern states, the board exceeded its regular appropriation by nearly $5,000, in order to establish a sufficient quarantine, etc. The authority of the board, in the absence of any epidemic, extends to the abatement of all nuisances and the treatment of all indigent sick. It has also the power to make and pass all such rules and regulations as it may deem necessary for the preservation of the public health and the prevention of disease, such rules having all the force of ordinances when they have received the approval of the city council. During an epidemic the board has authority to do any thing that may be thought best for the suppression of the disease.

The health officer, salary $2,400 per annum, is the chief executive officer of the board, and he is a physician. It is his duty to enforce all existing laws which have for their object the preservation of life, the prevention of disease, and the abatement of nuisances. He has supervision over all the inspectors and assistants, and has general care over the books and records of the office and all the property of the department. There are 3 meat inspectors and 1 milk inspector, whose duties are sufficiently explained by their titles. In addition to the above there are 13 sanitary policemen, one for each of the health districts into which the city is divided, and 27 district physicians, who are required to act as assistant health officers in their respective districts. All the above have police powers sufficient to enable them to enter premises, and to cause the arrest of persons who interfere with them in the execution of their duties.

NUISANCES, ETC.

Inspections are made daily in all parts of the city. When nuisances are reported the parties offending or responsible are ordered to abate the same within two days, and the sanitary police see that the orders are carried out. Questions of house-drainage and sewer connections, beyond such cases where pronounced nuisances exist, are wholly in the hands of the city commissioners and city engineer. The control and management of all cesspools and privy-vaults, outside of the immediate construction of the same, is in the hands of the board. The cleaning of streets and the removal of garbage and ashes are in the hands of the city commissioners, but the board is required to have a general sanitary supervision over the streets. The burial of the dead is under control of the board, and permits for interments are issued by the health officer, on death certificates signed by a physician.

INFECTIOUS DISEASES.

Small-pox patients are either quarantined at home or sent to the pest-house, which is situated in the western part of the city, the whole matter being at the discretion of the board. Nothing is done regarding scarlet fever, except when the disease appears in tenement houses or becomes epidemic. When diseases of a contagious nature

appear in public schools the board recommends certain action to the board of education, which is generally adopted. Vaccination is not compulsory, neither is it done at the public expense, the furnishing by the health department of virus for schools being the only exception.

REGISTRATION AND REPORTS.

Full records of all diseases, births, and deaths are kept in the health department, the classification of such being the same as that adopted by the National Board of Health.

The board reports annually to the city council, and the report is published with the other city documents.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and by its regular force. The work is done almost wholly by hand, there being but one sweeping-machine in the city, which is employed only to a limited extent by private persons. The cleaning is not done regularly, the business streets being attended to once every two or three weeks, while in more remote localities the intervals are greater. There is constant complaint of filthy gutters. Heavy rains do much more efficient work than the street-cleaners. The annual cost to the city is from $50,000 to $80,000, and the sweepings are either sold to persons who use them as fertilizers, or are deposited on new streets that require to be brought up to grade. Regarding this work, Major Chamberlin says:

> The chief merit of the system consists of its being kept under control of the city. Its defects are that it naturally becomes the prey of the political party in power, and its management is oftener in the interest of the party than of the public. Then there is great expense connected with keeping up stables and the care of necessary horses and wagons. It is thought that the contract system, with the city divided into districts, would be much cheaper and better, but though authority exists for such contracts the city council has not exercised it. There is universal complaint by physicians of the unhealthfulness of depositing street-cleanings on public streets or building lots.

Removal of garbage and ashes.—The removal of all garbage and ashes is done at the expense of the city by the street-cleaning department. While awaiting removal the garbage is required to be kept in water-tight vessels, and unmixed with ashes, shells, or other rubbish. It is reported that this requirement is not fully enforced. The garbage is either dumped into the river or carried to a fertilizing factory, while the ashes generally go upon streets that require filling. The city pays a contractor $15,000 per annum for removing all dead animals and all garbage, etc., that may be delivered to him by the street-cleaning department. The only complaint made regarding the system is from mixing garbage and ashes, and using the same for street-filling. The stench therefrom affects the neighborhood to a greater or less extent.

Dead animals.—The contractor for the removal of garbage has, as part consideration, the exclusive right to the removal and ownership of all dead animals found in the city. The officers of the board of health promptly notify the contractor when any dead animals are discovered, and, as the carcasses are of more or less value, he removes them without delay. During 1879 the following dead animals were removed: Hogs, 9,393; cattle, 398; sheep and goats, 790; horses, 1,200; and dogs, 1,000.

Liquid household wastes.—There are no special regulations on this subject, but the custom is to put chamber slops into privy-vaults, when the house is not connected with the sewer. The greater portion of laundry wastes and kitchen slops are run into the street-gutters, some being thrown into vaults. Cesspools are almost unknown in the city, and, where they do exist, are constructed in the same manner as vaults. Wells are very rarely used, the water for drinking purposes being taken from the city water-works.

Human excreta.—Major Chamberlin reports that there is no way of determining the exact number of water-closets in the city, but it is estimated that about one house in seven is so furnished, with probably a greater proportion in the central parts of the city. About three-fourths of the water-closets deliver into the public sewers, the remainder delivering into privy-vaults. The privy-vaults are required to be water-tight, but it is reported that very few of them are so. They must be 20 feet deep, walled with stone, and not nearer than 6 feet to any street or 2 feet to any party-line. No vaults are allowed to be built when a sewer-connection can be made. The vaults are cleaned by licensed cleaners, who must obtain a permit from the health officer before opening any vault, and who receive from $1 to $2 for each load. Two plans of cleaning are in common use—the pumping and the bucket system, the latter not being permitted during the warm summer months. The night-soil is carried to a *sullage*-boat, moored at the foot of Wood street, on the Ohio river, and when this boat becomes full it is dropped downstream, into the current of the river, and its contents are discharged into the channel. The boat is then thoroughly washed and returned to her station.

Manufacturing wastes.—According to Major Chamberlin, no provision is made for manufacturing wastes except that for the removal of ashes and street sweepings.

POLICE.

The police force of Cincinnati is appointed by the mayor, who has full power to make all rules and regulations for its government. The superintendent of police, salary $2,500 per annum ($800 of which is paid by the county), is the chief executive officer of the force. He is required to devote his whole time to the duties of his office, has

authority to give orders to the force for its guidance, and can issue warrants for arrests, prosecute offenders, etc. The remainder of the force, in the several grades, and the salaries of each, are as follows: 1 inspector at $1,500 per annum; 17 lieutenants at $900 a year each; 295 patrolmen at $800 a year each; 5 police-court officers at $800 a year each; 20 station-house keepers at $600 a year each; 1 clerk at $1,500 per annum; and 3 assistant clerks at $1,000 a year each. The uniform consists of a navy-blue cloth suit, frock coat with brass buttons, overcoat of the same material, and flannel blouse for summer, and a stiff black hat with gold cord and acorn tips. The men pay for their own uniforms, the average cost of each suit complete being $67 60, but are required to buy the cloth at one place, to secure uniformity in color and quality. The men are equipped with wooden maces made of maple, and revolver, the latter being their own property. They also wear ebony batons in a belt when on parade, and all the men are required to wear badges with numbers. The day patrolmen are on duty 12½ hours at a time, and the night patrolmen 10 hours, nearly 300 miles of streets being covered by the force.

During 1880 there were 14,592 arrests made—9,474 being for offenses, and 5,118 for safe-keeping. The latter were discharged without trial before court. The principal offenses were: Drunkenness, 2,374; disorderly conduct, 1,786; on suspicion, 1,284; assault and battery, 894; vagrancy, 674; larceny, 611; abusing family, 178; suspicious characters, 169; and carrying concealed weapons, 147. In the final dispositions of the arrests 3,012 were sent to the work-house and 172 before the grand jury.

No record is kept of the amount of property lost and stolen during the year and reported to the police. The number of station-house lodgers during 1880 aggregated 40,046 (males, 36,694; females, 3,352) as against 47,658 (males, 44,818; females, 2,840) in 1879. No free meals are given to these station-house lodgers, but during the past year 6,182 free meals were furnished to indigent prisoners, at a cost of $906 60.

The police force is required to co-operate with the fire department by promptly giving alarm and aiding in the preservation of order and property at fires, and with the department of public works by reporting all street obstructions, dangerous buildings, excavations, etc.

About 8 or 10 patrolmen, called specials, are detailed for duty at the most crowded street-crossings and to form a reserve at the central station. The mayor appoints private watchmen, who have the same powers as the regular force, but are not paid by the city. During the past year 5 policemen died (2 of these being killed while performing their duty), 20 resigned, and 219 were dismissed. The cost of the force for 1880 was $279,473 76. Major Chamberlin closes his information on the subject of police as follows:

> The police force of Cincinnati has for a number of years borne a good name for general efficiency, but in the past eight years it has been sorely tried by reason of legislation concerning it with a view to political advantage. As the legislature has been under the control of one or another party the laws governing the police force have been changed. At one time the mayor was deprived of all power over the police, and even did not possess a clear right to call upon them to suppress a riot. This was the condition in 1877, when the railroad riots were causing apprehension everywhere. Happily there was no serious outbreak here, and disaster was averted. Only in 1880 was the mayor given power to appoint and control the police. That power had been vested in a board of commissioners; and the *personnel* of that board was more than once changed by the legislature, to place the control of the police in the hands of one party or the other. One effect of this tossing about has been to create a public opinion which is opposed to all political use of the police, and considerable progress has been made toward keeping the police out of politics. They are now specifically prohibited from an active participation in political work beyond casting their votes.

The method of patrolling the streets at night is for two men to go together over the same beat. In day-time the patrolmen go about singly. The hours of service of the night patrolmen are so fixed that one of two "partners" goes on duty an hour earlier than the other, and goes off an hour earlier. This leaves no gap between the hours of day and night men, and keeps up an unbroken watch.

FIRE DEPARTMENT.

The fire department of Cincinnati is well equipped and efficient, and was organized as a paid department in 1853. It is managed by a board of fire commissioners, composed of 5 members, appointed by the mayor with the approval of the common council, who hold office for five years, without compensation. The term of one member expires each year. The force of the department consists of a chief engineer, with assistants, a telegraph corps, and 143 firemen. The apparatus now in use consists of 18 steam fire-engines, 1 hand-engine, 1 chemical engine, 5 hook-and-ladder trucks with life-saving apparatus attached, and 35 one-horse hose-reels, all in active service. There are 95 horses and 34,250 feet of hose in use. The steam-engines are all made in the city, and are, for the most part, of the class known as Lotta engines. The members of the department are always on duty, having one night off in each week. The engine-houses are well constructed, the sleeping-apartments being well lighted, ventilated, and fitted up, and, owing to this care of details, the health of the force is generally very good. There is no insurance patrol.

What is known as the Gamwell system of fire-alarm telegraph is in use, with which are connected 213 alarm-boxes. To supply water for extinguishing fires, 289 large, self-emptying cisterns and 753 fire-hydrants are always in readiness. The annual cost of the department is about $175,000.

MANUFACTURES.

The following is a summary of the statistics of manufactures of Cincinnati for 1880, being taken from tables prepared for the Tenth Census by Henry Cole, chief special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	Average number of hands employed.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	3,270	$50,533,100	38,993	10,483	5,041	$19,553,620	$62,376,710	$105,259,165
Artificial limbs (see also Surgical appliances)	3	3,350	11	.....	1	4,904	3,155	12,225
Awnings and tents	9	7,450	19	30	.....	11,492	34,095	64,750
Bags, paper	3	85,000	42	41	2	26,377	376,072	472,808
Baking and yeast powders (see also Drugs and chemicals)	6	28,000	19	.....	4	8,560	54,347	119,700
Baskets, rattan and willow ware	9	9,000	13	.....	2	4,175	10,505	24,000
Belting and hose, leather	3	57,000	26	.....	.....	15,429	73,107	104,554
Blacksmithing (see also Wheelwrighting)	128	115,745	328	.....	5	161,816	123,530	437,019
Bookbinding and blank-book making	18	157,910	122	148	22	116,534	116,377	387,040
Boot and shoe findings	5	28,000	9	2	.....	4,366	63,200	91,000
Boot and shoe uppers	3	5,400	13	9	3	9,000	14,900	29,000
Boots and shoes, including custom work and repairing	333	1,066,656	2,352	579	283	1,088,248	2,305,219	4,132,637
Boxes, cigar	8	23,750	47	44	23	32,090	60,185	118,740
Boxes, fancy and paper	7	38,550	27	35	7	26,726	32,012	72,809
Boxes, wooden packing	5	43,100	75	8	11	30,469	71,900	125,612
Brass castings	14	220,777	226	.....	33	109,249	306,962	551,600
Bread and other bakery products	232	391,860	551	66	82	246,344	1,159,017	1,827,216
Brick and tile	35	90,660	249	.....	41	79,155	59,050	215,035
Brooms and brushes	18	101,237	108	12	13	41,438	64,835	148,050
Carpentering	119	290,305	875	.....	13	386,095	745,720	1,615,097
Carpets, rag	21	4,775	32	3	6	11,425	15,899	41,822
Carriage and wagon materials	5	368,440	178	2	20	92,318	160,089	430,636
Carriages and wagons (see also Wheelwrighting)	50	1,252,131	2,694	81	522	1,207,319	3,061,204	5,287,113
Clothing, men's	237	6,279,783	3,731	4,898	646	2,670,180	8,628,133	13,878,903
Clothing, women's	19	194,802	31	898	8	222,380	608,002	1,036,454
Coffee and spices, roasted and ground	10	86,400	65	4	3	32,542	258,170	410,100
Coffins, burial cases, and undertakers' goods	8	636,500	464	98	96	258,446	402,075	1,002,800
Coke	3	14,000	13	.....	.....	4,012	17,206	42,887
Confectionery	20	177,075	148	60	23	83,595	407,820	660,260
Cooperage	58	359,950	531	.....	11	295,559	258,428	587,083
Coppersmithing (see also Tinware, copperware, and sheet-iron ware)	5	34,000	50	.....	2	25,054	57,740	102,536
Corsets	3	2,000	.....	5	1	1,395	3,800	10,000
Cotton goods (see also Hosiery and knit goods)	3	715,000	97	275	26	99,147	208,465	684,158
Cutlery and edge tools (see also Hardware; Tools)	12	40,100	31	.....	4	16,452	13,500	48,900
Dentistry, mechanical	24	18,550	14	1	1	9,763	12,179	72,495
Drugs and chemicals (see also Baking and yeast powders; Patent medicines and compounds)	8	102,200	49	.....	.....	16,844	159,225	225,025
Dyeing and cleaning	12	47,050	24	16	3	18,731	10,080	52,475
Dyeing and finishing textiles	7	58,300	27	13	3	20,401	78,400	144,205
Electrical apparatus and supplies	5	83,500	31	8	6	15,260	80,700	173,580
Electroplating	7	33,100	88	2	5	30,697	23,005	83,440
Engraving and die-sinking	12	11,050	26	8	10	16,838	6,894	38,021
Engraving, steel	3	1,300	3	.....	.....	1,600	1,100	5,600
Engraving, wood	3	2,100	8	.....	.....	4,150	825	9,500
Fancy articles	3	4,500	5	8	5	2,502	4,048	9,000
Flavoring extracts	4	10,800	10	1	2	3,980	9,300	17,800
Flouring- and grist-mill products	14	210,500	101	.....	.....	36,013	544,226	634,964
Food preparations	3	6,300	6	4	.....	2,000	5,860	13,910
Foundery and machine-shop products (see also Iron work, architectural and ornamental)	90	4,088,475	3,503	6	126	1,749,584	2,592,096	5,723,508
Fruits and vegetables, canned and preserved	4	221,360	179	577	150	79,173	565,234	749,928
Furniture (see also Mattresses and spring beds; Upholstering)	119	2,642,711	2,853	138	470	1,335,213	1,641,141	4,372,339
Furniture, chairs	16	71,850	167	17	14	73,775	50,222	208,635
Gas machines and meters	6	121,000	76	.....	1	41,998	77,100	139,070
Glass, cut, stained, and ornamented	3	5,650	14	.....	.....	8,700	3,525	23,600
Gloves and mittens (see also Hosiery and knit goods)	3	1,100	4	1	.....	1,400	3,500	7,000
Glue	3	189,000	46	.....	26	21,180	34,700	143,000
Grease and tallow	7	44,550	34	.....	1	18,486	187,200	229,000

Mechanical and manufacturing industries.	No. of establishments.	Capital.	Average number of hands employed.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
Hairwork	14	$32,050	11	31	.....	$9,988	$16,000	$42,080
Hardware (see also Cutlery and edge tools; Tools)	18	959,300	671	3	48	249,533	507,852	1,051,193
Hats and caps, not including wool hats	9	9,350	25	19	3	14,205	37,870	66,770
Hosiery and knit goods (see also Cotton goods; Gloves and mittens)	9	76,400	32	213	76	55,425	147,300	235,825
Ink	3	41,200	13	.....	2	7,360	45,200	78,800
Instruments, professional and scientific	8	33,200	37	1	2	17,557	11,998	47,549
Iron and steel	4	610,089	305	.....	8	163,590	338,479	596,160
Iron railing, wrought	5	18,150	58	.....	4	22,183	32,960	69,386
Iron work, architectural and ornamental (see also Foundery and machine-shop products).	8	50,250	84	.....	.....	39,025	152,124	255,847
Jewelry	9	152,000	179	25	49	131,886	142,385	418,000
Leather, curried	21	379,000	184	.....	.....	86,175	1,425,505	1,700,426
Leather, tanned	29	918,000	341	.....	5	168,393	1,594,137	2,000,672
Lightning rods	3	40,000	13	.....	.....	6,950	96,000	144,500
Liquors, distilled	10	3,143,500	750	.....	.....	312,500	3,604,120	5,293,466
Liquors, malt	19	4,139,968	1,373	.....	.....	595,303	2,566,000	4,580,579
Lithographing (see also Printing and publishing)	9	322,400	286	20	39	185,003	283,517	633,744
Lock- and gun-smithing	13	6,095	9	.....	4	4,328	3,035	14,410
Looking-glass and picture frames	9	404,350	462	.....	44	187,120	249,500	524,000
Lumber, planed (see also Sash, doors, and blinds; Wood, turned and carved).	11	247,676	341	1	1	168,000	400,959	656,824
Lumber, sawed	9	502,000	295	.....	20	110,970	974,097	1,247,191
Malt	14	839,000	107	.....	.....	57,316	736,613	884,310
Mantels, slate, marble, and marbleized	5	235,000	199	.....	17	93,362	186,540	304,330
Marble and stone work	44	468,650	628	5	33	262,647	287,502	856,863
Masonry, brick and stone	18	23,050	138	.....	5	58,591	85,628	183,509
Mattresses and spring beds (see also Furniture)	13	37,040	48	14	15	22,230	74,150	135,350
Millinery and lace goods	22	81,450	25	250	11	77,486	162,852	320,091
Mineral and soda waters	11	34,600	50	.....	5	18,192	29,091	82,742
Models and patterns	13	8,350	26	8	4	10,243	6,140	29,346
Musical instruments and materials (not specified)	7	12,300	17	.....	.....	6,875	4,925	19,625
Oil, lard	5	220,000	35	.....	.....	14,272	357,916	395,145
Oil, lubricating	4	104,775	20	.....	1	18,404	169,100	238,000
Painting and paperhanging	87	95,711	368	.....	5	133,930	148,174	414,469
Patent medicines and compounds (see also Drugs and chemicals)	41	505,750	102	11	11	56,360	361,163	540,120
Photographing	30	34,700	66	13	3	37,434	33,780	122,747
Pickles, preserves, and sauces	3	35,000	56	12	.....	16,800	95,000	130,000
Plumbing and gasfitting	59	200,498	235	.....	22	95,767	237,101	423,113
Printing and publishing (see also Lithographing)	89	2,527,791	1,910	349	830	1,168,592	1,307,880	4,006,450
Refrigerators	4	44,100	41	.....	2	11,303	13,425	42,040
Regalia and society banners and emblems	5	46,200	17	76	7	18,550	45,800	86,500
Roofing and roofing materials	25	230,520	234	1	3	91,764	409,244	612,491
Saddlery and harness	51	413,955	543	14	35	236,473	511,740	1,155,564
Safes, doors, and vaults, fire-proof	4	784,000	865	.....	10	502,428	425,000	1,335,000
Sash, doors, and blinds (see also Lumber, planed; Wood, turned and carved).	9	410,000	391	.....	12	187,049	355,400	735,200
Saws	5	112,750	96	.....	.....	37,518	66,410	145,550
Sewing machines and attachments	6	14,700	13	1	2	8,025	152,104	168,800
Shipbuilding	8	181,000	231	.....	.....	134,995	395,100	566,700
Shirts	21	188,400	69	418	2	107,271	253,325	416,627
Show-cases	4	26,200	92	.....	3	41,616	53,019	116,637
Silk and silk goods	5	21,700	19	68	39	10,700	18,355	46,140
Slaughtering and meat-packing, not including retail butchering	49	4,074,682	1,107	.....	36	388,302	10,454,991	11,614,810
Spectacles and eyeglasses	3	1,125	2	.....	.....	460	500	2,500
Stencils and brands	4	9,450	19	.....	7	12,924	3,450	22,620
Stereotyping and electrotyping	3	10,000	20	.....	2	13,495	7,000	28,348
Stone- and earthen-ware	12	287,100	275	41	75	139,508	93,730	356,900
Surgical appliances (see also Artificial limbs)	4	16,300	8	2	.....	6,452	8,000	26,000
Tinware, copperware, and sheet-iron ware (see also Coppersmithing)	107	344,333	390	3	19	168,933	400,303	730,333
Tobacco, chewing, smoking, and snuff (see also Tobacco, cigars and cigarettes).	13	490,645	431	85	60	101,986	1,138,489	1,508,486
Tobacco, cigars and cigarettes (see also Tobacco, chewing, smoking, and snuff).	250	746,935	2,009	372	384	901,628	1,048,066	2,767,401
Tools (see also Cutlery and edge tools; Hardware)	3	17,800	28	.....	1	19,100	14,700	45,800
Trunks and valises	11	93,700	199	20	14	61,200	100,935	226,706

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
Umbrellas and canes	7	$20,250	12	11	3	$9,800	$31,525	$55,000
Upholstering (see also Furniture)	11	152,850	113	16	45	48,883	166,495	265,825
Varnish	4	94,500	23	.....	.....	14,355	131,958	186,090
Vinegar	8	92,750	49	.....	.....	16,848	79,600	167,728
Watch and clock repairing	36	84,520	68	4	8	33,686	15,040	106,151
Wheelwrighting (see also Blacksmithing; Carriages and wagons)	45	122,012	206	.....	4	84,345	55,945	218,304
Window blinds and shades	6	17,100	17	4	1	9,484	61,000	100,424
Wirework	6	82,600	170	.....	36	36,157	97,200	198,600
Wood, turned and carved (see also Lumber, planed; Sash, doors, and blinds).	17	27,070	60	4	2	26,979	23,965	104,160
Wooden ware	3	83,064	70	.....	42	50,850	77,291	173,684
All other industries (*a*)	74	2,783,615	1,144	260	184	547,141	2,632,395	4,310,063

a Embracing agricultural implements; axle-grease; bags, other than paper; billiard tables and materials; blacking; calcium lights; carriages and sleds, children's; cars, railroad, street and repairs; cement; cigar molds; cleansing and polishing preparations; cloth finishing; combs; cordage and twine; drain and sewer pipe; enameled goods; envelopes; explosives and fireworks; fertilizers; files; flags and banners; foundery supplies; furnishing goods, men's; furs, dressed; gas and lamp fixtures; gold and silver leaf and foil; hand-knit goods; hand-stamps; housefurnishing goods; lamps and reflectors; lapidary work; lasts; lead, bar, pipe, sheet, and shot; lime; millstones; mirrors; mixed textiles; oleomargarine; oil, cottonseed and cake; oil, illuminating; oil, linseed; paints; pens, gold; pocket-books; printing materials; scales and balances; smelting and refining; soap and candles; springs, steel, car, and carriage; starch; steam fittings and heating apparatus; taxidermy; type founding; veneering; washing-machines and clothes-wringers; and woolen goods.

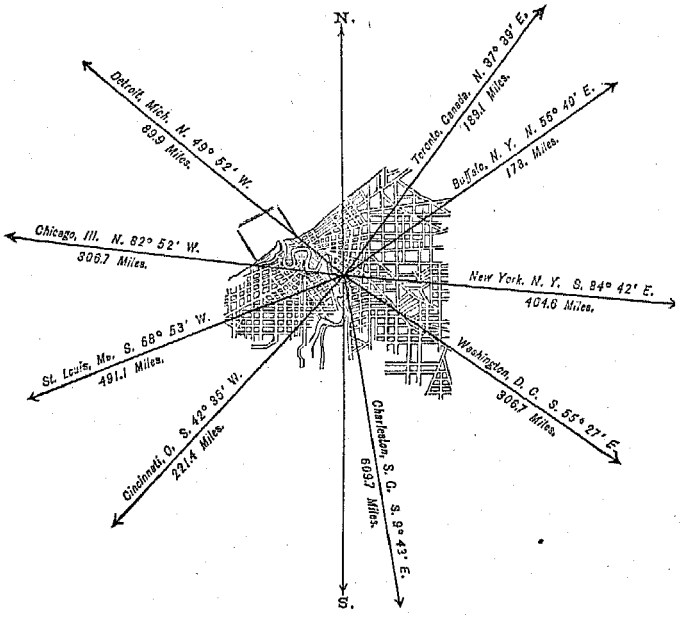
From the foregoing table it appears that the average capital of all establishments is $15,425 24; that the average wages of all hands employed is $358 67 per annum; and that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is $25,934 78.

CLEVELAND,

CUYAHOGA COUNTY, OHIO.

POPULATION IN THE AGGREGATE, 1820-1880.

	Inhab.
1790	.....
1800	.....
1810	.....
1820	606
1830	1,876
1840	6,071
1850	17,034
1860	43,417
1870	92,829
1880	160,146



POPULATION BY SEX, NATIVITY, AND RACE, AT CENSUS OF 1880.

Male	80,174
Female	79,972
Native	100,737
Foreign-born	59,409
White	158,084
Colored	*2,062

*Including 23 Chinese and 1 Indian.

Latitude: 41° 30′ North; Longitude: 81° 42′ (west from Greenwich); **Altitude: 570 to 813 feet.**

FINANCIAL CONDITION:

Total Valuation: $70,548,104; per capita: $441 00. Net Indebtedness: $6,467,046; per capita: $40 38. Tax per $100: $3 04.

HISTORICAL SKETCH.

The site of Cleveland, where the Cuyahoga river empties into lake Erie, was known to the Indians long before the coming of the white man, and the river was for many years a part of the boundary that separated the lands of the "Six Nations" from the "Wyandot Confederacy". Early in the eighteenth century trading-posts were established in this vicinity, and in 1752 Benjamin Franklin called attention to the place by recommending that a "fort and town for trade" should be erected at the mouth "of the *Tioga* [Cuyahoga] south of lake Erie". Even after the Revolutionary war the British refused to yield the country west of the river, and occupied it until 1790.

Cleveland was settled in 1796, at the time of the first survey of the Western reserve by the proprietors in Connecticut. General Cleaveland, who was in charge of the survey, was directed to lay out at this point "one capital

town", and it was laid out, so far as it was then done, substantially as it now exists. The settlement was first called "Euclid", but this was soon changed to "Cleveland". Progress was very slow for many years, several inland towns surpassing it in population and wealth. The prevalence of fever and ague in the vicinity, probably, had much to do with the slow growth. Its harbor proved to be of little value, as the mouth of the Cuyahoga river was obstructed by sand-bars that reduced the draught of water to 10 inches. In 1802 the price of lots, formerly sold at $50 each, fell off to $25, and even this was not promptly paid. In 1805 the customs district of Erie was formed, and the mouth of the Cuyahoga was made a port of entry. Even yet vessels could seldom get into the river without discharging their cargoes into lighters. In 1808 boat-building began, the "Zephyr", a schooner of 30 tons, being launched. In 1810 Cuyahoga county was organized, with Cleveland as the county-seat. During the war of 1812 a depot of supplies was established at this point, and troops destined for operations farther west were collected here. A small stockade was built on the lake shore, where now is the foot of Seneca street, and a permanent garrison occupied it. Though the ships of the enemy made several appearances off the mouth of the river, the little settlement was not disturbed during the war. In the latter part of 1814 Cleveland was incorporated as a village, the first election taking place in June of the following year, when 12 votes were cast. In 1818 the first newspaper, the Cleveland *Gazette and Commercial Advertiser*, was issued.

In 1825, the Ohio and Erie canal, connecting the waters of lake Erie with those of the Ohio river, was begun, the work being finished in 1832, with the northern terminus at this point. Steps were at once taken to improve the harbor. Piers were built out into the lake, the bar at the mouth of the river was cut through, and when the canal was opened Cleveland had a harbor all ready for the increased shipping that would be drawn to the port. The completion of these works begins a new era in Cleveland's history. The population of the village in 1830 was but little over 1,000. In *Life on the Lakes* the following description of Cleveland, in August, 1835, is given:

> The town is growing with a rapidity absolutely magical, has doubled its population in three years, and quadrupled its business in the same time. The buildings are either frame, clapboarded and very neatly painted, or brick, faced with a blue-gray stone which is found in great abundance about 3 miles from here up the creek, and which is an excellent material for building. There has lately been a very destructive fire, but they are already busied in preparing the site for larger buildings. The whole place is noise, bustle, and confusion. The inhabitants are very sanguine of the future onward progress of the place, and anticipate a great increase of business on the completion of the railroad which is to terminate here. From the amazing advance in the price of real estate here, and the number of speculators from all parts of the country who make Cleveland the theater of their operations, confidence in its future prosperity must be very generally felt among the knowing ones.

In 1836 Cleveland was granted a city charter, and the same year Ohio City, situated on the west bank of the river directly opposite Cleveland, was also incorporated as a city. There was more or less rivalry between the two cities until 1854, when Cleveland absorbed its neighbor on the west bank.

In 1837, the speculation in land, which had been running high since 1834, was brought to a stop by the general commercial revulsion of that year. Some improvements were planned and begun during this period, and there was still a steady advance, especially in the building of vessels for the lakes. These latter included many steamers for passenger traffic, as the bulk of emigration to the newer states was by water transportation. In 1841 a breakwater of piles and stone was built along a part of the city front from Ontario street to Seneca street, it having been found that the waters of the lake had encroached upon the site of the city about 200 feet since 1796. About 1850 the first railroad to this point was completed, and in a short time two or three others were projected. Improvements of all kinds were apparent; buildings of a better class were erected; the paving (with planks) of some of the streets was begun, and the completed railroads began rapidly to increase the population and business. The progression was hardly checked by the financial disturbance in 1857, though many individuals suffered.

The tremendous activities of the war period were in a measure favorable to the profitable employment of existing industries and caused the development of many new enterprises. The discovery of petroleum about this time and its introduction into general use was a great benefit to the city, much of the crude oil coming here for refining and shipment. Many large fortunes were made, and, as a rule, the lucky possessors remained in Cleveland to enjoy their wealth. During this period building was brisk everywhere. Many small homesteads were purchased, and, under the influence of speculation, the prices of land were rapidly carried up. Many public works and improvements were completed, and though these increased the debt of the city to some extent, they were of benefit to the citizens generally.

No very severe or sweeping fires have ever visited the city, though there have been several of considerable magnitude. Oil refineries and lumber mills and yards have frequently been burned, but these establishments are generally isolated in their situation.

The original settlers of Cleveland came from Connecticut, but immigrants soon came from the other New England states and from New York. About 1830, foreigners began to come in, and of these the Germans were soon, numerically speaking, the strongest.

CLEVELAND IN 1880.

The following statistical accounts, collected from the city authorities and other sources by W. U. Masters, esq., indicate the present condition of Cleveland:

LOCATION.

Cleveland lies in latitude 41° 30′ north, longitude 81° 42′ west from Greenwich, on the south shore of lake Erie, and on each side of the Cuyahoga river, which here enters the lake 183 miles west of Buffalo and 113 west of Toledo by rail. The city is built both upon the bluff and along the lower level of the river and the shore-line of the lake, the greater portion being located upon a gravelly plain about 100 feet above the surface of the lake, which is 573 feet above sea-level. The lowest point in the city is on a level with the surface of lake Erie; the public square, corner of Superior and Ontario streets, is 82 feet above this, while the highest point rises 240 feet above the lake, or 813 above the level of the sea.

The Cuyahoga river passes through the city in a winding course, affording an excellent harbor, which has been improved by dredging out a commodious ship-channel (branching from the river near its mouth), and by the erection of two piers, 200 feet apart, that stretch out several hundred feet into the lake. The city has water communication with all points on the great lakes, and, by the Ohio and Erie canal, with the Ohio river at Portsmouth, Ohio. Regular lines of steamers ply from here to Buffalo, Erie, Toledo, Detroit, Milwaukee, Chicago, etc.

RAILROAD COMMUNICATIONS.

Cleveland has the following railroads:

The New York, Pennsylvania, and Ohio railroad, from Salamanca, New York, to Dayton, Ohio, with connections to New York, Chicago, and Cincinnati.

The Cleveland, Columbus, Cincinnati, and Indianapolis railroad, between the points named.

The Cleveland and Pittsburgh railroad, to Pittsburgh, Pennsylvania.

The Cleveland, Painesville, and Ashtabula railroad, between the points named, and now operated by the Lake Shore and Michigan Southern railroad.

The Cleveland, Mount Vernon, and Columbus railroad, to Columbus, Ohio.

The Cleveland, Tuscarawas Valley, and Wheeling railroad, to Bridgeport, Ohio.

The Lake Shore and Michigan Southern railroad, from Buffalo to Toledo, with connections to New York on the east and Chicago on the west.

TRIBUTARY COUNTRY.(a)

The region immediately tributary to Cleveland comprises the northern half of Ohio, several counties of northwestern Pennsylvania, and the northeastern portion of Indiana, while a large share of the lumber product of northern Michigan is disposed of here. To these may be added the mineral regions of lake Superior, the yield of ores from which is mainly used in the furnaces of this vicinity. The whole of the first-named portion is a nearly level or moderately undulating country, everywhere suited for cultivation, but varying in soil and fertility. In the near vicinity of Cleveland are several counties the soil of which is mainly a clay loam that produces the grasses in perfection, and with careful drainage and tillage and the use of fertilizers will produce the cereals abundantly, especially wheat of the highest quality. South and west of these counties the soil is more adapted to the easy cultivation of corn, and, in this latitude, this means that the amount of flesh-producing animals is, or should be, very large. These animals, with wool, wheat, corn, oats, and flour, are mainly sent here for a market.

Along the shores of lake Erie fruit-growing takes up much of the land. Grapes are of the most commercial importance, while berries and nearly all garden products come next. After all demands of the city are supplied, large quantities of grapes and strawberries are shipped to other markets, going as far as Saint Louis and Quebec.

There are many large and growing towns in this region supported mainly by manufactures and local trade, while several are of importance as educational centers. The railroads that radiate from the city run trains at cheap rates for the accommodation of the manufacturing towns, and, as a consequence, their products are brought here. Among them are rolled iron, glass, nails, agricultural implements, machinery, carriages, furniture, bent wood, paper, steam-engines, etc. In return the local trade of these towns is almost entirely with Cleveland.

In addition to these industries, the numerous sandstone quarries in the vicinity add to the city's trade. This stone is much used in all classes of building, either to form the whole house, or for foundations, casings or trimmings, and also for bridges, locks, piers, breakwaters, ballasting for railroads, etc. Several of the larger quarries have rails laid from the works to the docks in the city, and much of the stone is shipped to Canada, New York, etc.

Large quantities of coal are mined in the region distant from 40 to 150 miles south and east of the city. Much

a The following account of the country tributary to Cleveland is taken from a paper prepared for the Census Office by C. G. Calkins, esq.

of it is used locally in various manufactures, but the greater portion comes here, either for domestic use or for shipment. Iron ore is found in nearly the same localities as the coal, and much of it, after being smelted, comes here for general distribution. The refining of crude petroleum is largely carried on here, while the lumber region of Northern Michigan uses Cleveland as a shipping center for its products.

TOPOGRAPHY.

The city of Cleveland is located on a plain of stratified drift, sand, clay, and gravel, from 70 to 100 feet above the surface of the lake, the natural drainage being of the best possible kind. There is no rock visible in this plain, but at a depth of 80 to 100 feet below lake-level there is a Devonian shale, with bands of fine-grained sandstone, which is from 500 to 600 feet thick, with limestone underneath. The surrounding country is open, cultivated, and free from marshes or ponds. What are known as the "Lake ridges", near lake Erie, are usually of sand or a sandy loam.

CLIMATE.

Highest recorded summer temperature, 96°; highest summer temperature in average years, 92°. Lowest recorded winter temperature, −17°; lowest winter temperature in average years, −12°. The adjacent waters of lake Erie not only influence the direction of the winds to a considerable extent, but greatly ameliorate the severity of the climate. As the winds bring with them the temperature of the regions they have traversed, a southerly wind is a warm current and a northerly wind a cold one; but since the temperature of the lake is more uniform than that of the land, winds passing over it do not cause such variations of temperature during the year as winds passing over the land. As an atmosphere loaded with vapor obstructs the terrestrial radiation, moist winds blowing from the lake are accompanied by a milder temperature in winter (when not frozen) and a cool temperature in summer.

In summer, when there is no atmospheric disturbance to overcome the influence, the difference in temperature between the land and the lake produces northerly winds during the day and southerly winds during the night, thus rendering calms, or a stagnant condition of the atmosphere, very infrequent.

STREETS.

Cleveland includes within her city limits 17,165 square acres, or within a fraction of 27 square miles. The streets, paved and unpaved, would make a continuous highway 369.7 miles long, and, if the alleys were added, 424.7 miles. There are over 60 miles of paved streets, 26.5 miles of curbed streets, and 104 miles of graded streets. The paved streets are laid with the following materials: Stone blocks, 17.64 miles; asphalt, 2.20 miles; asphalt and stone combined, 1.20 miles; broken stone, 5.90 miles; wood, 10.10 miles; wood and stone combined, 14.02 miles; and gravel, 9.60 miles. The cost per square yard of each, as nearly as it may be estimated, and the cost of keeping each in good repair during the past two years, is as follows:

Material.	Cost of construction per square yard.	Cost of repairs per mile.
Stone blocks	$1 71	$425 00
Asphalt	2 30	2,315 00
Asphalt and stone	2 30	1,676 00
Wood	2 30	1,081 00
Wood and stone	2 30	611 00
Broken stone	1 40	425 00
Gravel	Not stated.	Not stated.

The relative facility with which each is kept clean is said to be in the following order: Concrete, stone blocks, wood, broken stone, and gravel. In regard to the quality and permanent economy of each, the city engineer says:

The concrete used (Abbott's) has not been first-class, but is more easily repaired. Wood pavements, if made of good well-seasoned lumber, are good for from seven to ten years. Coal-tar, Thilmeny, and the Seeley and Pelton processes have been tried. The tar is considered to preserve the thin bed-boards, but to hasten decay in the thick blocks. The Thilmeny process has not proved successful, and in some instances the pavements treated with it have been the first to decay. One street only has the pavement treated with the Seeley and Pelton process; after seven years' use it appears to be in good condition. All stone pavements in the city are laid with Medina (New York) sandstone, and are by far the most economical, as far as the cost of actual pavement is concerned, but the indirect expense in the wear and tear of horses and vehicles is fully two or three times as great. Macadam or broken stone pavements are not a success here, for want of proper material, the native stone being too soft. Graveled streets are successful, but require constant care to prevent them from rutting.

The sidewalks are mostly laid with stone flags, either sawed, crandled, or split, 6 feet wide, and cost from 12 to 16 cents per square foot, put down. In some cases the sidewalks are laid with hard-burned brick, costing from 8 to 10 cents per square foot, put down, while in the suburban districts walks are sometimes made with cinders, which have not been found to answer very well. Gutters upon all paved streets are of the same material as the roadway, while on the dirt streets, except where the grades are heavy, they are usually open ditches. On the steep grades the gutters were formerly made of plank, costing from 25 to 30 cents per linear foot, but now they are being replaced with stone gutters, 5 feet wide, and costing from $2\frac{1}{2}$ to $3\frac{3}{4}$ cents per square foot, which prove to be very successful.

All tree-planting, except in one street, has been left to the abutters, and, as a general thing, every street has been well planted. The trees are mostly maples and elms, and are set between the curb-line and the flagging, while nearly every residence street has a grass plat between the curb and the flagging, which is cared for by the property-owners.

All street improvements, such as construction and general or systematic repairing, are done by contract, the work being let to the lowest bidder, while all small jobs are done by the city with its regular street force. The city engineer expresses a preference for contract work, as it is much cheaper. A steam stone-crusher has been used, but, as it was found to be too powerful for the class of stones here, all crushing is now done by hand. A steam-roller is used on the macadam and concrete streets, and the authorities "would not think of doing without it".

HORSE-RAILROADS, ETC.

The horse-railroads in the city have an aggregate length of 36 miles, with 90 cars, 750 horses or mules, and 250 men. The rates of fare are 5 cents (22 tickets for $1) on all roads but one, where the fare is 6 cents for each passenger.

There are no regular omnibus lines in the city, but about 50 vehicles carry passengers from the several railroad stations to all parts of the city, at fares varying from 50 cents to $2, according to the distance traveled.

WATER-WORKS.

The water-works are owned by the city, and their total cost has been $2,529,301 44. Water is taken from lake Erie, and is pumped into a reservoir, 150 feet high and 6,000,000 gallons capacity, the pressure varying from 10 to 65 pounds to the square inch in the pipes. In order to improve the water-supply, in 1874 a crib was made out into the lake, with a tunnel leading to it. The crib is constructed of timber, filled with stone, and the outside is protected with a riprap of stone, being covered with iron plates to protect it from the ice. The tunnel is 5⅛ by 5 feet in diameter, 6,661 feet long, and connects with the crib through a vertical shaft 8 feet in diameter, extending 90 feet below the surface of the lake. A similar shaft at the shore end is 67½ feet deep. The construction of this work was peculiarly difficult, and occupied five years. The lower portion of the shaft, at the lake end, for a distance of 46 feet is lined with cast iron 2 inches thick, and the remainder with boiler iron ⅝-inch thick, the top of the shaft being 9 feet below the lake surface. The new pumping machinery was put in in 1874, and consists of three pairs of pumping engines of 5,000,000 gallons capacity each.

The greatest amount pumped per diem is 16,000,000 and the least 8,000,000 gallons, the daily average consumption being 10,179,461 gallons. The average cost of raising 1,000,000 gallons 1 foot high is 5 cents; the yearly cost of maintenance, aside from the cost of pumping, is $28,212 58, and the yearly income from water-rates is $182,000. There are 402 water-meters in use, and it is found that, where set, they tend to prevent waste, as well as to increase the revenues. There are 125.6 miles of mains, 10,800 service-pipes, 2,205 stop-gates, and 998 fire-hydrants.

GAS.

The gas-works are owned by private corporations. The daily average production is about 440,000 cubic feet. The charge per 1,000 feet is, to consumers, $2; to the city, $1 25. The city pays about $16 per annum each for street-lamps, 2,595 in number.

PUBLIC BUILDINGS.

The city owns and occupies for municipal purposes, wholly or in part, 1 work-house, 1 infirmary, 4 market-houses, 2 armory buildings, 6 police stations, 13 fire-engine houses, and 44 school buildings, the approximate cost of all being $850,000. The city hall, costing $600,000, is owned by the "Case School of Applied Sciences", being the gift of the late Leonard Case, and is rented by the city for municipal purposes.

The viaduct, which stretches from Superior street to Pearl street, is 3,211 feet long, 64 feet in extreme width, with a roadway 42 feet between the curbs, and two sidewalks 11 feet wide. The draw-bridge is 332 feet long and 46 feet wide, with a roadway of 32 feet, and 7-foot sidewalks. The part west of the river is solid arched masonry, the piers being built upon pile foundations. All of the remainder of the viaduct is of iron, except 150 feet next to Superior street, which is of stone. The roadway is 60 feet above the surface of the river. The work of construction began in 1874, and was completed in 1878, at a cost of $2,164,578 17.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are 6 public parks in the city, with an aggregate area of 29.411 acres, as follows:

Monumental Park comprises an area, as originally laid out, of 10 acres, "the center of the park being the exact junction of Superior and Ontario streets." In 1836 the streets around the park were laid out, and the park proper, the four quarters, now contains 4.44 acres.

Lake View Park comprises all of the territory lying north and including 25 feet of the north side of Summit street to the tracks of the Cleveland and Pittsburgh railroad, west of the east line of Erie street, and east of a line

drawn through the center of Seneca street, and contains 10.415 acres. By ordinance passed June 29, 1875, the park commissioners were authorized to take charge of all the lands fronting the park, lying north of lands owned by the railroad companies, for bathing and boating purposes.

Franklin Circle is located at the junction of Franklin avenue, York, Fulton, and Hanover streets, and contains, including the streets surrounding and passing through it, 1.414 acre.

Clinton Park contains 1.981 acre, which includes 12 feet of the streets surrounding it. It is located at the northern extremity of Dodge street, lying between Davenport street on the north and Lake street on the south.

Miles Park contains 2.450 acres; the streets surrounding it being included, it comprises the square bounded by Woodland Hills avenue on the east, Sawyer street on the west, and Park street on the north and south.

South Side Park contains an area of 9.116 acres, and lies east of Jennings avenue, with Starkweather avenue on the south, Merchant avenue on the east, and Kellogg avenue on the south.

The original cost of Lake View park was $235,000, and of South Side park $50,000. The following table shows the receipts and expenditures, for all park purposes, since 1872:

Year.	Receipts.	Disbursements.
1872	$45,152 50	$43,873 10
1873	240,437 50	242,316 47
1874	64,004 17	10,858 46
1875	17,895 08	60,643 14
1876	14,484 30	21,102 92
1877	19,109 47	9,190 24
1878	3,709 93	6,678 19
1879	209 50	7,336 75
1880	10,357 44	10,877 20
Total	415,359 89	412,878,56

The disbursements for 1880 represent a fair average of the present yearly cost of maintenance for all the parks. The parks are managed and controlled by a board of park commissioners, composed of three members, who are appointed by the mayor and confirmed by the city council.

PLACES OF AMUSEMENT.

There are four theaters in Cleveland, as follows: The Opera-house, with a seating capacity of 1,280 persons; the Globe theater, seating 900; the Academy of Music, with a seating capacity of 1,100; and the Theatre Comique, seating 950. These theaters pay an annual license of $50 each to the city.

Of the concert-halls and lecture-rooms, not including those connected with churches, may be mentioned Ease hall, seating 1,240; People's tabernacle, with a seating capacity of 3,400 persons; the East Cleveland tabernacle, seating 900; and Reeves' opera-house, seating 600.

DRAINAGE.

In 1860 the central portion of the city was divided into five sewerage districts, plans for main drainage being prepared for each district and some main sewers built. Since that time other main lines have been added and new districts provided for as needed. As a rule the public works have preceded any private attempts at sewerage or drainage. Water-courses used as a receptacle for sewerage generally run in open channels. The final disposition of the outfall of sewers is lake Erie, the mouths of the sewers being above the surface of the water and fully exposed.

It is stated that no provision is made for the ventilation of sewers in public streets, and, though ventilation from closets and traps inside of houses is required, the ordinance is not always complied with.

The smaller sewers, consisting of 9- and 12-inch pipes, have to be flushed occasionally. There are about 1,900 catch-basins, constructed with traps with sand-boxes beneath, to retain street deposits and prevent solid matters from entering the sewers. The cost of cleaning the catch-basins is about $1 25 each per year.

The cost of sewers is paid entirely by the owners of the property within the district drained, an assessment, not exceeding $2 per front foot, being laid upon the abutting property; and if this does not afford sufficient means to pay for the work, the deficiency is levied on the whole sewerage district on the basis of valuation of property.

No sewers were built during 1880, nor was any information furnished regarding the extent or cost of the present system of sewerage or of the details of construction. The cost of each catch-basin is from $35 to $40, and of its connection with the sewer from $18 to $20; manholes cost from $35 to $40 each.

City ordinances place all house-sewer connections, inside the line of public streets or places, under the control of the board of improvements, while those beyond the street lines are under control of the board of health. No person is allowed to do any work of construction, alteration, or repairs, in connection with house-drains or sewers, without a license from the board of improvements, licenses being granted for only one year. No construction or alteration of waste- or soil-pipes, in plumbing work, may be done except by a person licensed by the water-works

board. No person is allowed to lay any drain or build any cesspool, vault, or catch-basin for house-drainage without first obtaining a permit from the proper department of the city, no matter whether the work is intended to be connected with a public sewer or not. All sewers or drains, before entering a house, cellar, or basement, are required to be connected with a suitable ventilating-shaft, extending at least 8 feet above the main roof of the house, and all soil-pipes are required to be extended above the roof.

In his annual report for the year ending December 31, 1880, the city engineer has the following regarding the sewerage of Cleveland:

The sewers in the lower or older part of the city, especially in the 3d ward, are in bad shape. They were constructed, very many of them, a long time ago, and are now too small and too near the surface. They should be repaired, with new ones, especially the one in Bank street, before the street is paved.

There should be a main intercepting sewer run along the vicinity of Canal street and the tracks of the Cleveland, Columbus, Cincinnati, and Indianapolis railroad, from Commercial street to lake Erie, to take up the sewers that now empty into the river in that part of the city; but before any more main sewers are built due consideration should be taken as to the probable future growth of the city. If Cleveland should become a very large city it might become necessary to run an intercepting sewer along the lake shore as far as Willson avenue, to take up sewers that now run into the lake in front of the city, provided that the future growth and needs of the city should require it. The intercepting sewer referred to above, on the east side of the river, could be connected by proper appliances with Wolworth Run sewer, when built, and then extended by trenching under Lake and other streets as far as Willson avenue, and then empty into the lake; or the tunnel could be carried out under the lake a proper distance from shore, so that the discharge of sewage matter would not be detrimental to property in that vicinity.

In his annual message to the city council, Mayor Herrick comments on the recommendations of the city engineer, as follows:

The necessity for some such sewers, especially the one just east of the river, is obvious. Under the present system of sewering the city we have what is equivalent to two large open sewers, one, the Cuyahoga river, traversing the city from north to south its entire length; the other, Wolworth run, from east to west, through the westerly half of the city. Into these pours all the house and surface drainage of a large portion of the city—the filth from the slaughtering-houses, oil-refineries, and manufactories which line their banks. Their waters become impregnated with the foul mixtures, and when exposed to the summer's sun can not but exhale a noisome and unhealthful odor. Some of the filthy substances which find their way into the river settle to the bottom, and there remain until brought to the surface by the action of the wheels of some passing steamer, when they give forth a disease-breeding stench and sink back to await the next opportunity to rise.

Another ill-effect of the deposit of so much nastiness in the river was seen in the condition of our drinking-water from the lake at the time of the ice gorge at the mouth of the river this winter. The ice in the lake prevented the egress of that in the river, so that when the latter broke away it was forced by the current under the lake-ice until it reached such a depth as to plow up the concentrated filth at the bottom of the river and in the lake just at its mouth. This was carried out toward the water-works crib, and a considerable quantity found its way into the water-pipes and was distributed throughout the city. * * * Much, too, of the offal that is thrown into the river and Wolworth run is carried by the current into the lake, and is then washed landward and deposited along the shore and there left to putrefy and decay, emitting in the mean time noxious odors and rendering the neighborhood disagreeable both to sight and smell.

CEMETERIES.

Of the several cemeteries used by the people of Cleveland for the burial of their dead, the following belong to the city:

Woodlawn Cemetery, area 60½ acres, was organized in 1853, and is situated on Woodland avenue, between Quincy, Giddings, and Cemetery streets. Total number of interments to date, 14,675.

Erie Street Cemetery, area 30 acres, is situated between Erie, Dale, Brownell, and Sumner streets, and was organized in 1827. Total number of interments to date, about 15,000.

Monroe Street Cemetery is located between Monroe street and the Cleveland, Columbus, Cincinnati, and Indianapolis railroad, contains about 60 acres of ground, and was organized in 1850. Total number of interments to the present time, 7,407.

Harvard Grove Cemetery, situated on Harvard street, near the southeastern limits of the city, contains about 20 acres, and has just been organized. The remains of about 2,000 persons, that were formerly interred in the old Axtel Street cemetery, will be removed here.

The cemeteries owned by private corporations, societies, etc., are as follows:

Saint John and *Saint Joseph Cemeteries*, on Woodland avenue, just south of Woodland cemetery, have an aggregate area of 23 acres, and were organized in 1842. Total number of interments in the two cemeteries to the present time, 25,200.

The Jewish cemeteries of *Tiffret Israel* and *Auchie Cleried* are located together, at the corner of Monroe and Millet streets, and have a combined area of 3½ acres. They were organized in 1850, and so far there have been 860 interments made in them. They belong to the Huron and Eagle Street congregations, lots being sold to members only, at prices ranging from $25 to $150. The lots are 9 by 20 feet.

The *Hungarian*, *Austia Emeth*, and *Russian* Jewish cemeteries occupy about 2½ acres of land, and are used by the several congregations named.

North Brooklyn Cemetery, located on Scranton avenue, in the 12th ward, area 2½ acres, was organized as early as 1788. There have been nearly 2,000 interments made here, and, as the cemetery is nearly full, it is not much used now.

Riverside Cemetery, area 102½ acres, is situated just outside the city limits, on the Brooklyn road, and was organized October 21, 1875. Total number of interments to date, 1,015.

Lake View Cemetery, area 350 acres, is situated outside the western limits of the city, and was organized in 1870. The cemetery is well laid out, with macadamized roads, artificial lakes, etc. Lots are sold at prices ranging from 30 to 70 cents per front foot. Total number of interments to date, about 1,300.

The *Infirmary City Cemetery* is attached to the infirmary, on Scranton street, and is used for the burial of the poor who die in that institution. It occupies 1 acre of ground, and so far 750 interments have been made here.

Before any interment can be made a permit must be obtained from the health officer. These permits are granted on death certificates signed by the attending physician.

MARKETS.

There are four public markets in Cleveland, owned by the city, as follows:

Name of markets.	Location.	Area of ground.	Length of curb space.	STALLS.		BENCHES.		CURB STANDS.	
				Number.	Yearly rent.	Number.	Yearly rent.	Number.	Yearly rent.
		Square feet.	*Feet.*						
Central	Woodland avenue and Bolivar street	24,700	5,670	68	$100	68	$40	88	$30
Pearl Street	Corner of Pearl and Lorain streets	12,500	4,607	29	75	26	20	32	20
Eighteenth Ward	Broadway, corner of Canton street	6,000	600	11	40	8	20	19	20
Fifth Ward	Corner of Oregon and Oliver streets	6,000	1,850	20	40	24	20	32	20

The total annual rental for all the markets amount to $18,395, and to this should be added the sum of $15,000, which is realized every year as premiums on the stalls, benches, and curbs, as they are disposed of.

The market buildings are all of wood, three of them having been built ten or fifteen years ago and one two years ago, and their estimated value at the present time is $40,000, exclusive of land, which is valued at $100,000.

The markets are open daily from 6 a. m. to 1 p. m., also on Saturdays from 6 to 10 p. m.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority in Cleveland is the board of health, an independent organization, composed of five physicians and one civil engineer, appointed by the city council, to hold office for a term of three years, with the mayor a member *ex officio*. The ordinary annual expenses of the board vary from $12,000 to $15,000, for salaries, small-pox hospitals, printing, postage, vaccine virus, etc. During epidemics the expenses of the board are practically unlimited, as the state laws require the council to furnish all necessary funds. In the absence of any declared epidemic the authority of the board extends over the sanitary area of the city and the general health of the inhabitants, while during epidemics it has full power to do all things necessary to check and control the disease. The board meets the first and third Thursdays in each month, and transacts its business as a legislative body.

The health officer, salary $1,500 per annum, is the chief executive officer of the board, and has authority to carry out all the orders of the board and to see that the health ordinances are enforced. He is a physician. He has as assistants 1 inspector of sewers at $780 a year, and 6 sanitary policemen at $720 a year each. These assistants have full police powers. There are also 18 district physicians, one for each of the sanitary districts into which the city is divided, who have general supervision of the condition and health of their respective districts.

NUISANCES, ETC.

Inspections are made daily in all parts of the city, and the sanitary policemen report twice a week at the health office to receive complaints that may be made there. When a nuisance is reported or discovered the health officer or one of his assistants examines the place, and if the nuisance is found to exist it is ordered abated. From the annual report of the sanitary police it appears that 18,125 nuisances or defects were abated or corrected during the past year. The board of health exercises full control over the conservation and removal of garbage and the removal of excrement.

BURIAL OF THE DEAD.

No interments are allowed, except on permits issued by the board of health.

INFECTIOUS DISEASES.

When possible, all small-pox patients are removed to the pest-house (or small-pox hospital), which is situated on a farm of 30 acres, 6 miles outside the city. If patients can not be removed they are quarantined at home, a notice being posted on the door and police supervision invoked to keep up the isolation. In scarlet-fever cases the

house is disinfected and guarded as much as possible. The board takes cognizance of the breaking out of contagious diseases in public or private schools only so far as vaccination is concerned and where sickness exists in the family of a pupil. Vaccination is compulsory, but it is done at the public expense only when persons are unable to pay.

REGISTRATION AND REPORTS.

All births and deaths are registered at the health office, in records prepared for the purpose, and all physicians are required by law to make full returns. The board reports annually to the city council, and its report is published with the regular city documents.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city by contract, the work being done wholly by hand. The cleaning is done as often as necessary, the streets being usually in good condition. The cost of this work in 1879 was $11,321 54. The sweepings are deposited on low grounds or used on gardens as a fertilizer.

Removal of garbage and ashes.—All garbage is removed, under direction of the board of health, to a boat and then taken down the lake; swill is removed by a contractor, while the ashes must be disposed of at the expense of the householders. Ashes and garbage are not allowed to be kept in the same vessel, and regulations for the proper conservancy of garbage while awaiting removal are now under discussion. The cost of the service to the city is $100 per month for the removal of garbage, and nothing for swill; while the householders pay 50 cents per cubic yard for the removal of the ashes.

Dead animals.—The carcasses of animals dying within the city limits are removed by a contractor, who makes two collection trips each day. The service is a source of revenue to the city, the contractor paying for the privilege. During 1879, 1,150 carcasses were removed.

Liquid household wastes.—A large portion of the household wastes of the city are run into sewers, about 25 per cent. going into cesspools and but very little into street-gutters. The cesspools have tight sides but porous bottoms, are not provided with overflows, do not receive the wastes from water-closets, and are cleaned out when ordered by the health officer.

Human excreta.—It is stated that all water-closets in the city deliver into the public sewers. About 1 per cent. of the privy-vaults are reported as being nominally water-tight. They are required to be 10 feet deep, at least 40 feet from any dwelling or spring, and may be built only under permits from the board of health. All vaults are emptied by regular contractors, some of the night-soil being made into a fertilizer and some being sold to farmers.

Manufacturing wastes.—The greater portion of the manufacturing wastes of Cleveland find their way either into the river or into Wolworth run.

POLICE.

The police force of Cleveland is appointed and governed by the police commissioners, a body composed of four members elected by the people, with the mayor *ex officio* as president. The chief executive officer is the superintendent of police, salary $2,000 per annum, who has full control of the force, and administers it in accordance with the rules and regulations making the usual provisions. The remainder of the force, with their annual salaries, is as follows: Three captains at $1,296 each; 10 lieutenants and 8 detectives at $950 each; 8 sergeants at $875 each; 1 superintendent's clerk at $900; 1 telegraph operator and 2 doormen at $600 each; 2 janitors at $720 and $700; 1 fireman at $480; 123 patrolmen at $756 each; and 6 patrolmen on special duty. The uniform is of navy-blue cloth, made after the New York style, and costs complete about $110. Each man provides his own uniform.

The city is divided into eight police precincts. The first precinct includes the territroy bounded between the lake on the north, the river on the west, and a line running along Tracy street, the New York, Pennsylvania, and Ohio railroad tracks, Cross and Erie streets. The second precinct embraces the territory north of Euclid avenue between Erie street and Willson avenue. The third precinct takes in the 4th and 6th wards. The fourth precinct is co-extensive with the West Side. The fifth precinct is the South Side. The sixth precinct embraces the 14th and 15th wards. The seventh precinct comprises the 16th and 17th wards (East End); the eighth precinct, the 18th ward (South Cleveland).

The patrolmen are distributed among the precincts as follows: First, 41; second, 13; third and sixth, 20; fourth, 25; fifth, 8; seventh, 8; eighth, 8. About two-thirds of the policeman are on duty at night. The average extent of a day-beat is $9\frac{1}{5}$ miles; of a night-beat, $6\frac{1}{16}$ miles. The average of policemen is 5.8 to the square mile.

During the past year there were 7,432 arrests made by the police, the principal causes being: For assault, 373; larceny, 355; disorderly conduct, 528; disturbance, 567; intoxication, 2,973; suspicious character, 209; vagrancy, 174; and violating minor city ordinances, 905. The final disposition of the cases were either by fines and costs, committed, discharged, or held for trial. The total amount of property lost or stolen during the year and reported to the police was $28,780, and of this, $24,913 was recovered and returned to the owners. The number of station-house lodgers for 1880 was 1,237.

A detail from the force attends all fires to preserve order and protect property. Special policemen are appointed by the commissioners and are known as "merchant police". They receive no pay from the city, but are subject to the regular police rules. The total expense of the police force for 1880 was $132,802 61.

FIRE DEPARTMENT.

The full control and management of the fire department of Cleveland is vested in the board of fire commissioners, a body composed of five members, four being elected by the citizens for terms of four years each, and the chairman of the committee on fire and water of the city council, *ex officio*. The force is composed of 143 men, as follows: 1 chief engineer at $2,000 per annum; 1 assistant engineer at $1,700, 1 at $1,600, and 1 at $1,500 a year; 13 engineers and 4 captains of hook-and-ladder companies at $960 a year each; 13 stokers, 13 leading hosemen, and 4 tillermen, at $744 a year each; and 1 harness-maker, 1 line-repairer, 3 telegraph-operators, 3 supply-drivers, and 83 firemen, at $720 a year each. The apparatus consists of 15 steamers, of which 5 are first-sized rotaries, 4 second-sized rotaries, and 2 third-sized rotaries, Silsby manufacture; 2 are second-size piston, Amoskeag pattern, and 2 third-size piston; 4 hook-and-ladder trucks, provided with fire-extinguishers, ladders, buckets, etc.; 4 four-wheeled hose-carriages, 18 two-wheeled hose-carts, 11 heaters, 1 aerial ladder, 1 patrol-wagon, 3 heavy open buggies, 3 fuel-wagons, 1 telegraph-wagon, and 6 exercise-wagons. There are 67 horses and 18,000 feet of hose in the department. The total amount disbursed on account of the fire department during the year was $148,426 60.

During the year 1880 there were 337 alarms. The total losses by fire amounted to $268,799 58, and the total insurance involved was $700,320. The following table shows the losses by fire in the city since April 1, 1864:

Date.	Number of fires.	Amount of losses.
To April 1, 1865	68	$261,341 48
To April 1, 1866	56	173,990 62
To April 1, 1867	111	206,942 82
To April 1, 1868	144	300,441 76
To April 1, 1869	149	196,984 19
To April 1, 1870	143	378,635 61
To April 1, 1871	149	300,453 71
To April 1, 1872	195	153,193 53
To December 31, 1872	144	309,725 72
To December 31, 1873	157	348,410 64
To December 31, 1874	285	641,506 35
To December 31, 1875	284	137,122 66
To December 31, 1876	274	253,558 75
To December 31, 1877	320	25,910 50
To December 31, 1878	266	206,835 95
To December 31, 1879	294	215,357 96
To December 31, 1880	305	268,799 58

The following table shows the comparative expenses of the department during the past seven years:

Year.	Number of firemen.	Number of engine-houses.	Running expenses.	Total disbursements.
1874	118	10	$138,267 39	$161,901 64
1875	152	11	140,705 71	170,976 59
1876	143	11	136,153 87	149,894 72
1877	143	13	147,340 00	156,019 12
1878	133	13	144,034 56	159,970 44
1879	142	13	146,721 15	151,972 99
1880	142	13	143,918 05	148,426 60

The estimated value of the fire department property is $394,176, divided as follows: Engine-houses and lots, $205,000; apparatus, $67,600; reservoirs, $48,000; telegraph line, $33,000; and miscellaneous articles, $40,516.

PUBLIC SCHOOLS.

The value of school property belonging to the city is to-day not far from $1,500,000, and accommodations are provided for not far from 20,000 pupils, for whom about 400 rooms are set apart. Since 1859, members of the board of education have been elected by the people, and since 1868 that board has been independent of the council, except in the matter of purchasing sites and building, which restraint was removed in 1873, when the power to levy tax was placed in the hands of the board.

The real estate owned by the city and purchased for school purposes aggregates within a fraction of 33 acres.

The following table is interesting as showing the progress and present condition of the public schools of the city:

Year.	Number of teachers.	Number of enrolled pupils.	Number of children of school age.	Average daily attendance.
1836	3	220	.....	.....
1837	8	400	2,132	240
1840	10	900	.....	.....
1845	.....	.....	3,177	.....
1846	15	1,500	3,455	9,936
1850	25	2,061	5,042	1,440
1855	60	4,701	12,947	3,061
1860	83	5,110	14,309	3,930
1865	115	8,315	18,607	5,333
1866	123	9,043	20,775	5,887
1867	161	10,154	25,823	6,623
1869	164	11,151	27,824	7,222
1870	177	12,257	32,157	7,765
1879	389	22,741	.....	15,694

COMMERCE AND NAVIGATION.

[From the reports of the Bureau of Statistics for the fiscal years ending June 30.]

Customs district of Cuyahoga (*a*), Ohio.	1879.	1880.
Total value of imports	$39,259	$237,442
Total value of exports:		
Domestic	$711,901	$417,976
Foreign	$22	$221
Number of immigrants	238	54

Customs district of Cuyahoga (*a*), Ohio.	1879.		1880.	
	Number.	Tons.	Number.	Tons.
Vessels in foreign trade:				
Entered	380	105,063	321	75,100
Cleared	423	114,566	330	76,480
Vessels in lake trade and fisheries:				
Entered	2,594	1,155,282	3,264	1,485,010
Cleared	2,610	1,161,326	3,313	1,502,798
Vessels registered, enrolled, and licensed in district	193	64,973	175	64,287
Vessels built during the year	5	270	9	3,311

a Cleveland.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Cleveland for 1880, being taken from tables prepared for the Tenth Census by M. M. Hobart, chief special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	Average number of hands employed.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	1,055	$19,430,980	18,018	2,286	1,420	$8,502,935	$31,020,737	$48,604,050
Agricultural implements	3	101,200	30	.....	8	16,006	53,930	85,420
Blacksmithing (see also Wheelwrighting)	28	31,050	72	.....	4	31,249	29,030	84,770
Bookbinding and blank-book making	12	116,000	115	71	10	66,705	114,112	210,200
Boot and shoe uppers	3	10,000	16	15	1	8,488	27,450	42,920
Boots and shoes, including custom work and repairing	103	227,045	320	44	1	121,238	242,879	455,536
Boxes, cigar	3	6,900	11	12	8	8,500	24,000	44,000
Brass castings	6	37,500	81	.....	2	35,200	60,000	118,140
Bread and other bakery products	45	110,303	131	16	7	63,163	290,515	452,823
Brick and tile	21	89,100	256	.....	22	74,014	87,169	159,450
Bridges	4	347,000	573	.....	4	180,122	504,348	925,063

Mechanical and manufacturing industries.	No. of establishments.	Capital.	Average number of hands employed.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
Brooms and brushes	6	$22,000	210	64	101	$54,675	$57,725	$141,656
Carpentering	13	36,550	120	.....	2	56,240	104,000	185,150
Carpets, rag	9	760	5	.....	.....	1,050	2,572	9,815
Carriages and wagons (see also Wheelwrighting)	25	165,400	283	.....	2	126,288	122,480	335,084
Cars, railroad, street, and repairs	4	141,500	216	.....	.....	103,025	461,000	661,000
Clothing, men's	73	1,086,600	824	1,172	61	634,319	1,488,780	2,087,400
Coffee and spices, roasted and ground	4	138,000	62	1	6	43,440	199,600	300,600
Coffins, burial cases, and undertakers' goods	3	198,000	144	39	10	70,012	103,780	205,150
Confectionery	5	61,500	47	25	9	23,300	111,500	161,550
Cooperage	11	42,575	194	.....	.....	88,625	334,315	474,050
Cutlery and edge tools (see also Hardware)	3	97,000	116	.....	.....	47,531	54,326	123,000
Dentistry, mechanical	3	9,000	7	1	.....	4,918	6,050	10,450
Drugs and chemicals (see also Patent medicines and compounds)	6	563,000	202	4	1	63,400	323,875	557,500
Engraving, wood	3	1,200	7	.....	1	3,000	800	10,000
Flouring- and grist-mill products	6	120,000	71	.....	.....	34,200	988,650	1,105,768
Foundery and machine-shop products (see also Iron work, architectural and ornamental)	53	1,961,038	2,426	3	108	946,877	1,786,420	3,820,085
Furniture (see also Upholstering)	28	326,600	392	12	23	167,251	183,199	470,835
Hairwork	10	14,740	5	10	.....	4,335	10,230	21,140
Hardware (see also Cutlery and edge tools)	8	49,000	69	.....	11	28,550	59,875	142,560
Hats and caps, not including wool hats	3	2,000	12	5	1	6,200	4,100	17,800
Hosiery and knit goods	5	27,000	4	192	2	21,900	42,100	97,550
Iron and steel	10	2,830,042	2,788	.....	211	1,960,237	6,491,506	9,435,432
Iron bolts, nuts, washers, and rivets	5	307,500	364	.....	.....	153,923	482,926	800,711
Iron forgings	3	305,000	206	.....	.....	86,500	323,000	523,000
Iron railing, wrought	4	28,200	25	.....	8	8,885	23,800	45,500
Iron work, architectural and ornamental (see also Foundery and machine-shop products)	3	11,500	37	.....	.....	18,844	47,274	84,354
Jewelry	4	5,900	26	.....	.....	10,500	11,600	30,000
Leather, curried	4	47,000	19	.....	.....	8,200	159,008	178,500
Leather, tanned	4	68,000	32	.....	.....	14,850	143,700	181,800
Lime	4	44,600	45	.....	4	10,100	35,750	63,500
Liquors, malt	23	1,286,200	328	1	1	102,345	699,666	1,249,502
Lithographing (see also Printing and publishing)	4	100,700	136	16	5	70,600	124,100	223,600
Looking-glass and picture frames	8	41,650	24	1	3	11,200	40,050	61,850
Malt	4	260,000	40	.....	2	20,003	259,073	333,452
Marble and stone work	11	168,000	161	.....	36	100,200	219,364	412,850
Masonry, brick and stone	5	20,700	168	.....	2	63,000	93,750	187,000
Mineral and soda waters	4	21,500	25	.....	4	9,230	12,955	43,000
Models and patterns	4	2,800	11	.....	.....	6,800	1,500	12,200
Oil, lubricating	5	655,850	122	.....	6	56,123	850,102	1,103,714
Painting and paperhanging	24	47,420	139	.....	.....	58,267	59,590	160,366
Paints (see also Varnish)	10	423,500	207	12	15	113,214	801,334	1,202,480
Patent medicines and compounds (see also Drugs and chemicals)	3	6,700	5	.....	1	2,400	9,006	14,311
Photographing	14	31,450	33	7	6	18,471	18,411	68,400
Plumbing and gasfitting	17	22,850	85	.....	2	34,061	60,600	142,411
Printing and publishing (see also Lithographing)	11	693,300	392	18	16	258,590	436,947	660,560
Pumps, not including steam pumps	3	9,500	10	.....	.....	4,300	7,900	15,200
Roofing and roofing materials	4	61,000	41	.....	.....	19,292	113,000	169,000
Saddlery and harness	35	36,031	77	.....	2	28,951	60,900	118,900
Sash, doors, and blinds (see also Wood, turned and carved)	15	466,314	489	.....	11	202,703	533,035	857,087
Sewing-machine cases	5	36,000	275	.....	22	108,300	126,000	255,000
Shipbuilding	12	167,100	282	.....	.....	144,200	301,250	510,550
Shirts	7	20,300	7	48	.....	14,589	51,812	87,295
Slaughtering and meat-packing, not including retail butchering	12	447,000	388	.....	28	192,892	4,886,771	5,427,038
Soap and candles	5	55,000	20	.....	2	8,420	47,715	68,700
Stencils and brands	3	1,200	6	.....	.....	2,825	2,100	9,300
Stereotyping and electrotyping	3	4,150	6	.....	1	3,400	1,000	8,500
Tinware, copperware, and sheet-iron ware	60	140,650	215	1	25	100,080	227,019	447,811
Tobacco, cigars, and cigarettes	68	106,950	299	36	11	119,315	166,320	366,412
Trunks and valises	6	28,700	35	3	5	12,200	29,100	49,000
Umbrellas and canes	3	3,300	2	1	2	550	3,045	7,500

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youth.			
Upholstering (see also Furniture)	8	$4,300	16	6	2	$5,820	$21,500	$33,350
Varnish (see also Paints)	4	432,500	53	.....	.....	32,695	562,039	691,245
Watch and clock repairing	3	12,800	10	1	2	3,450	5,000	12,500
Wheelwrighting (see also Blacksmithing; Carriages and wagons)	19	10,900	39	.....	.....	16,235	15,800	48,000
Wirework	4	118,500	78	2	25	3,175	200,500	287,000
Wood, turned and carved (see also Sash, doors, and blinds)	3	17,250	30	.....	9	17,000	20,895	53,489
Wooden ware	3	108,500	140	10	58	52,550	158,000	232,500
All other industries (*a*)	73	3,609,921	3,052	428	488	1,007,679	5,052,410	7,316,707

a Embracing artificial limbs; awnings and tents; bags, other than paper; baking and yeast powders; baskets, rattan and willow ware; belting and hose, leather; belting and hose, rubber; billiard tables and materials; boxes, fancy and paper; carriage and wagon materials; clothing, women's; cordage and twine; dyeing and cleaning; electric lights; electroplating; fancy articles; fertilizers; files; foundery supplies; fruits and vegetables, canned and preserved; furs, dressed; gas and lamp fixtures; hand-stamps; ink; instruments, professional and scientific; iron nails and spikes, cut and wrought; iron pipe, wrought; lamps and reflectors; lead, bar, pipe, sheet, and shot; leather, dressed skins; liquors, distilled; lumber, planed; lumber, sawed; mantels, slate, marble, and marbleized; mattresses and spring beds; millstones; musical instruments, organs, and materials; oil, lard; oil, linseed; paper; rubber and elastic goods; rules, ivory and wood; saws; screws; sewing-machines and attachments; shoddy; show-cases; silk and silk goods; springs, steel, car, and carriage; surgical appliances; taxidermy; telegraph and telephone apparatus; tobacco, chewing, smoking, and snuff; tools; vinegar; wheelbarrows; wire; and woolen goods.

From the foregoing table it appears that the average capital of all establishments is $18,418; that the average wages of all hands employed is $391 41 per annum; and that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is $39,145 53.

COLUMBUS,

FRANKLIN COUNTY, OHIO.

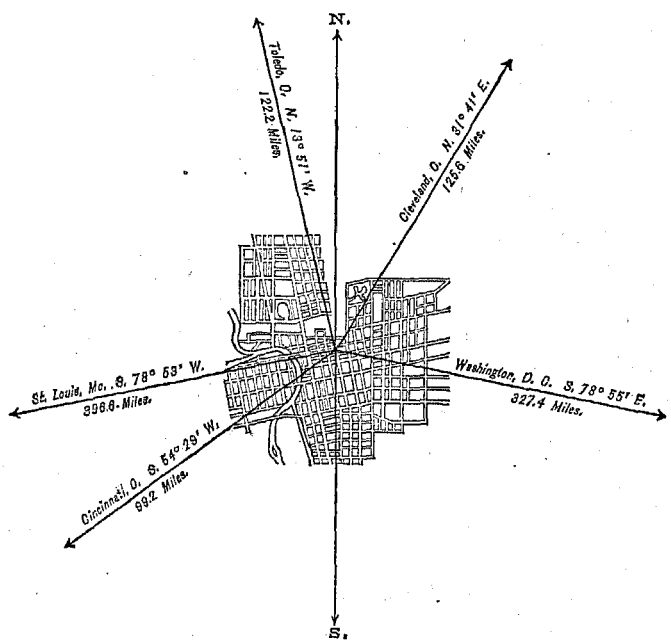
POPULATION

IN THE

AGGREGATE,

1830-1880.

	Inhab.
1790	.....
1800	.....
1810	.....
1820	.....
1830	2,435
1840	6,048
1850	17,882
1860	18,554
1870	31,274
1880	51,647



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	26,409
Female	25,238
Native	42,576
Foreign-born	9,071
White	48,628
Colored	* 3,019

* Including 8 Chinese and 1 Indian.

Latitude: 39° 57′ North; Longitude: 82° 59′ (west from Greenwich); **Altitude: 834 feet.**

FINANCIAL CONDITION:

Total Valuation: $27,439,382; per capita: $531 00. Net Indebtedness: $1,259,162; per capita: $24 38. Tax per $100: $2 12.

HISTORICAL SKETCH.

In 1812, as it was desired to have the capital as near the center of the state as possible, the present site of Columbus was selected for the purpose. Chillicothe was originally the seat of government. In February, 1810, the legislature appointed five commissioners to examine and select the most eligible site. In their report to the legislature, dated September 12 of the same year, they recommended a site 12 miles below Franklinton, now a part of Columbus (made so by annexation in 1872). At the session in 1812 a company, composed of Lyne Starling, John Kerr, Alexander McLaughlin, and James Johnston, proposed that the legislature establish the seat of the state government on the high bank east of the Scioto river, nearly opposite Franklinton. This same company made proposals for the erection of a state-house, penitentiary, and other public buildings, the same to be completed in 1817. An act was passed February 14, 1812, accepting the proposals and the bond of the company, and permanently establishing the seat of government on the lands named therein, the legislature to begin its sessions there on the first Monday of December, 1817, and there continue to May, 1840, and thenceforth until otherwise provided by law.

The "refugee lands", upon which the town was located, comprised a narrow tract of 4 miles wide from north to south, and extended 48 miles eastwardly from the Scioto river. On the 18th of June, 1812, on the same day that the United States declared war against Great Britain, the first public sale of lots took place. At this time the site was an almost unbroken forest, with no residents within its limits. In 1814 the *Western Intelligencer* was removed from Worthington to this place and the title was changed. The first saw-mill, the first tavern, and the first bridge over the Scioto river were built in 1813; the first school and the first market-house were built in 1814, and two churches were erected the same year; and in 1815 the first census was taken, showing a population of 700 souls. The town was incorporated February 10, 1816, and a United States court was erected in 1820. The town increased rapidly in population, and on March 3, 1834, was granted a city charter.

COLUMBUS IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Columbus:

LOCATION.

Columbus lies in latitude 39° 57′ north, longitude 82° 59′ west from Greenwich, on both sides of the Scioto river, but principally on the east side, about 90 miles above its junction with the Ohio river. Its altitude above sea-level, as given in the reports of the Smithsonian Institution, is 834 feet. The river is not navigable here. The whole area of the city contains 6,752 acres, and it is well surrounded on all sides by an almost unlimited extent of level land. The Ohio canal passes 11 miles south of this point, and is connected with the Scioto river at Columbus by a feeder.

RAILROAD COMMUNICATIONS.

Columbus is touched by the following railroads:
The Baltimore and Ohio railroad, from Baltimore to Chicago.
The Cleveland, Columbus, Cincinnati, and Indianapolis railroad, between the points named.
The Cleveland, Mount Vernon, and Columbus railroad, from Cleveland to Columbus.
The Cincinnati, Sandusky, and Cleveland railroad, from Cincinnati to Sandusky.
The Columbus and Hocking Valley railroad, from Columbus to Athens.
The Columbus and Toledo railroad, between the points named.
The Ohio Central railroad, from Toledo to Corning.
The Pittsburgh, Cincinnati, and Saint Louis railroad (Pan Handle route), from Pittsburgh to Saint Louis.
The Scioto Valley railroad, from Columbus to Portsmouth, Ohio.

STREETS.

The streets are wide, and are laid out with great neatness and uniformity. Broad street, 120 feet wide, extends from east to west, and is crossed by High street, 100 feet wide, on which the principal business is transacted. At the intersection of these is a public square of 10 acres. There are 141¾ miles of streets in the corporate limits of the city, 72½ miles of which are unimproved. Of the improved streets, 55.60 miles are paved with gravel, 7.07 miles with macadam, 6 miles with asphalt or concrete, 0.41 mile with bowlders, and 0.17 mile with wooden blocks. The gravel streets are not all fully improved, portions of them being without curb, gutter, or sidewalk, and nearly all of them are in bad condition and need repairs. The asphalt or concrete pavement has cost from $7 83 to $2 26 per foot front, and the wooden blocks have cost from $10 88 to $4 50 per foot front, the latter including the curb. There are 4 horse-railroads, with an aggregate length of 11¾ miles.

WATER-WORKS.

The water-works are owned by the city, and cost to March 31, 1880, $700,358 50. The water is taken from the Scioto river through a filtering-basin over a mile long, and pumped directly into the mains. The daily average of water pumped during the year was over 2,000,000 gallons. The average cost of raising 1,000,000 gallons one foot high is 8 cents. The actual running expense, including repairs, for the year was $19,044 92, and the receipts from water-rents were $44,572 57. There are 50½ miles of pipe, 319 fire-hydrants, and 534 water-meters.

GAS.

The gas-works are owned by a private corporation.

PUBLIC BUILDINGS.

The state-house, costing $1,359,121; the deaf and dumb asylum, costing $625,000; the new insane asylum, costing over $1,000,000; the penitentiary, and many others, are owned by the state. Among the buildings owned by the city and occupied for municipal purposes is the city hall, costing $210,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are 2 well-located public parks of good size in Columbus.

PLACES OF AMUSEMENT.

Comstock's opera-house, seating 2,000, and the Grand opera-house, seating 1,500, are the two theaters in the city. They pay an annual license of $100 each. In addition to the theaters there are about 20 small halls used for all kinds of entertainments. There are 3 concert- and beer-gardens, the largest containing an acre of ground, inclosed, and seating 2,000 persons. It is largely patronized by Germans.

DRAINAGE.

In his annual report for the past year, the city engineer states that the 12½ miles of main trunk sewers in use, which have cost the city $302,000, are all working in a satisfactory manner. The sewage is discharged into the Scioto river, one sewer delivering opposite the thickly populated part of the city.

SANITARY AUTHORITY.

The police board of Columbus is vested with the powers of a board of health, but has never organized as such. In case of an epidemic the board would probably take all necessary measures, and the city would pay the expense. A sanitary policeman is employed, who makes inspections as nuisances are reported, and uses all necessary means to have the same abated. Small-pox patients are sent to the pest-house, situated outside the city limits. Vaccination is made compulsory when small-pox breaks out, and is done at the public expense. The registration of all diseases, births, and deaths is kept by the infirmary director.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its regular force. Sweeping-machines are used on the asphalt and concrete pavements only, the work on the others being done by hand. The concrete pavements are cleaned every night, and the macadamized and cobble stone pavements are cleaned as necessity demands. The cleaning, while not entirely satisfactory, is fully in accord with the amount appropriated by the city council for the work—$11,200 annually. In addition to the cost to the city, private persons pay $2,300 annually. The sweepings are deposited in low portions of the city.

Removal of garbage and ashes.—These are removed by the householder under private contract. There are no rules as to the conservancy of garbage while awaiting removal, but it is not kept in the same vessel with ashes. The garbage is taken off by gatherers, while the ashes are dumped into low lots. The probable cost to householders for the service is $5,000 annually. No complaints are reported from the system.

Dead animals are removed by the owners when they are able; if not, then by the city. The annual cost of removal to the city is $400, and the system is reported to answer all purposes.

Liquid household wastes nearly all run into the sewers, a small portion only into cesspools, and none at all into street-gutters. The cesspools are porous, have no overflows, and receive the wastes from water-closets. There are no regulations concerning the cleaning out of cesspools, and considerable complaint is made of the stench from them.

Human excreta.—One-third of the houses in the city are provided with water-closets, nearly all of which deliver into the sewers, and the remainder depend on privy-vaults. Probably one-half the vaults are nominally water-tight. They are required to be 15 feet deep for business houses and 10 feet deep for dwellings, at least 5 feet from any party-line, and must be walled up with either brick or stone. They are cleaned out when offensive, this cleaning in the summer months being done at night, and the contents removed in covered carts. The night-soil is taken outside the city and buried, none being used for manuring land within the gathering-ground of the public water-supply.

POLICE.

The police force of Columbus is appointed and governed by the board of police commissioners, which consists of five members, with the mayor as president. The superintendent of police, salary $1,200 per annum, is the chief executive officer, and has general charge of the force, under the orders of the board. The remainder of the force consists of 2 sergeants at $840 each per annum; 2 roundsmen at $780 each per annum; and 36 patrolmen at $720 each per annum. The uniform is of dark-blue navy-cloth, and each man provides his own. The patrolmen are equipped with revolver and mace, they are on duty twelve hours at a time, and all the streets in the city (141¾ miles) are patrolled by the force.

During the past year 3,218 arrests were made, 315 for state offenses and 2,787 for city offenses. They were disposed of by fines or commitment, or held for trial, turned over to institutions, etc., or discharged. The value of property lost or stolen during the year was $13,832 52, and of this, $11,036 87 was recovered and returned to the owners. There were 164 station-house lodgers during the year. The force is required to co-operate with the fire department by preserving order and protecting property at fires. Special policemen are appointed by the commissioners, on the request of persons or corporations. They are paid by the parties for whose benefit they are appointed, but are under the orders of the superintendent of police. The cost of the police force for the past year was $34,878 27.

FIRE DEPARTMENT.

The manual force of the department consists of 1 chief engineer, 1 superintendent of fire-alarm telegraph, 8 captains, and 21 firemen—a total of 31 officers and men. The apparatus consists of 3 four-wheel two-horse hose-carriages, 3 two-wheel one-horse hose-carts, 1 two-tank chemical-engine (160 gallons capacity), and one hook-and-ladder truck. There are 15 horses and 7,800 feet of hose. The fire-alarm telegraph has 44 street signal-boxes. During the past year there were 79 box alarms and 3 still alarms, involving a loss by fire of $30,024 57, being $9,174 58 on buildings and $20,849 99 on personal property. The total insurance involved was $257,434. The total disbursements on account of the department for the year were $27,042 77.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Columbus for 1880, being taken from tables prepared for the Tenth Census, by Isaac W. Tucker, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	Average number of hands employed.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	316	$5,379,401	4,035	289	266	$1,961,394	$5,534,496	$9,646,679
Blacksmithing (see also Wheelwrighting)	20	5,855	20	.....	.....	6,515	8,455	26,675
Bookbinding and blank-book making	3	41,200	26	20	8	27,800	66,200	153,000
Boots and shoes, including custom work and repairing	25	61,250	102	17	.....	51,383	77,105	159,637
Brass castings	3	13,200	31	.....	.....	13,420	54,250	115,000
Bread and other bakery products	10	49,653	51	5	.....	25,241	142,103	198,305
Brick and tile	7	187,036	174	.....	4	53,113	96,041	232,030
Brooms and brushes	8	31,500	45	4	6	20,714	66,004	99,572
Carpentering	12	25,650	83	.....	.....	36,784	98,676	191,747
Carriage and wagon materials	5	221,000	158	.....	.....	49,481	81,625	222,999
Carriages and wagons (see also Wheelwrighting)	10	393,000	555	2	40	248,722	598,376	1,008,179
Clothing, men's	3	23,000	80	20	.....	11,500	56,053	86,458
Confectionery	4	6,400	4	3	3	4,430	20,447	33,800
Dentistry, mechanical	5	4,350	2	.....	.....	600	3,450	10,000
Flouring- and grist-mill products	3	15,000	2	.....	.....	804	27,420	31,101
Foundery and machine-shop products	16	376,500	376	.....	6	142,965	239,231	446,350
Furniture	3	107,000	187	8	12	79,883	62,000	208,500
Iron and steel	3	800,000	504	.....	26	177,008	734,704	1,140,525
Liquors, malt	4	510,000	149	.....	.....	67,450	290,895	519,529
Lumber, planed	9	213,100	119	.....	15	56,940	317,245	445,500
Marble and stone work	11	34,750	59	.....	.....	19,954	28,500	70,925
Painting and paperhanging	14	4,625	30	.....	1	19,000	10,043	55,848
Photographing	6	10,100	12	2	.....	7,301	8,100	27,900
Printing and publishing	10	107,100	100	8	11	129,271	110,900	272,358
Pumps, not including steam pumps	4	3,800	8	.....	.....	3,050	2,750	10,786
Saddlery and harness	9	24,900	24	.....	.....	10,783	18,800	57,243
Shirts	3	7,400	.....	18	.....	4,400	13,000	25,500
Tinware, copperware, and sheet-iron ware	22	89,300	103	.....	.....	40,012	75,875	161,975
Tobacco, cigars and cigarettes	19	46,645	131	6	18	43,831	79,766	188,039
Vinegar	3	4,300	3	.....	.....	2,750	7,888	18,100
Wheelwrighting (see also Blacksmithing; Carriages and wagons)	6	7,250	8	.....	.....	2,801	2,050	8,499
All her industries (*a*)	56	1,798,537	1,681	176	116	603,329	2,140,065	3,404,249

a Embracing agricultural implements; baskets, rattan and willow ware; boxes, fancy and paper; carriages and sleds, children's; cars, railroad, street, and repairs; coffee and spices, roasted and ground; cooperage; cordage and twine; cutlery and edge tools; enameled goods; engraving and die-sinking; files; furniture, chairs; glass; hairwork; handles, wooden; hardware, saddlery; hosiery and knit goods; iron bolts, nuts, washers, and rivets; iron railing, wrought; iron work, architectural and ornamental; jewelry; leather, curried; leather, tanned; lime; lock- and gun-smithing; looking-glass and picture-frames; masonry, brick and stone; mattresses and spring beds; mineral and soda waters; oil, lard; paper; paving materials; regalia and society banners and emblems; sash, doors, and blinds; saws; soap and candles; trunks and valises; watch and clock repairing; watches; window blinds and shades; wire; and wirework.

From the foregoing table it appears that the average capital of all establishments is $17,023 42; that the average wages of all hands employed is $357 27 per annum; and that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is $24,742 58.

DAYTON,

MONTGOMERY COUNTY, OHIO.

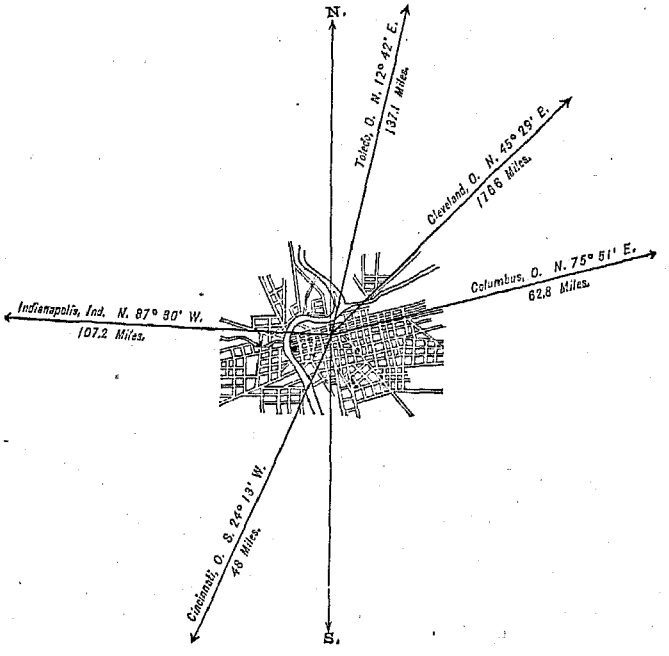
POPULATION

IN THE

AGGREGATE,

1810-1880.

	Inhab
1790	.....
1800	.....
1810	383
1820	1,000
1830	2,950
1840	6,067
1850	10,977
1860	20,081
1870	30,473
1880	38,678



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	18,969
Female	19,709
Native	31,432
Foreign-born	7,246
White	37,683
Colored	*995

* Including 1 Indian and 3 Chinese.

Latitude: 39° 44′ North; Longitude: 84° 8′ (west from Greenwich); **Altitude: 775 to 950 feet.**

FINANCIAL CONDITION:

Total Valuation: $18,888,270; per capita: $488 00. Net Indebtedness: $1,101,521; per capita: $28 48. Tax per $100: $2 23.

HISTORICAL SKETCH.(a)

A sketch of the history of Dayton may not be considered as properly incepted which does not contain a reference to that mysterious prehistoric race which, while it has left in the Miami valley and elsewhere abundant proofs of its existence, has left nothing more, not even a name. The name given them indicates about all that is known of them; they were "mound-builders"; but why and when, no man knows. In the vicinity of Dayton are several of their make. At Miamisburg, on the east side of the Miami river, is one of the largest mounds in the West. It is symmetrical in form, 68 feet high, and 800 feet in circumference at base, and was formerly covered with trees. Some archæologists suppose it to have been the sepulcher of a ruler. Two miles north of the mound is an earthwork, perhaps for military purposes, circular in form, and formerly connected with the river by parallel embankments. But the connection of this people with the locality is a matter of curiosity rather than of importance, and may be thus dismissed.

a Taken from a paper written for this report by Ashley Brower, esq.

The territory lying between the Miami rivers (Big and Little) north from the Ohio, to Mad river, had not been occupied by Indians, except as common hunting grounds for the tribes to the northward, since the year 1700, and until the whites came it was a vast forest, unbroken except by small prairies and scattered areas of wet land. With the organization of the Northwestern territory came governmental protection for the pioneers of the West, and troops were stationed at fort Harmer, at the mouth of the Muskingum, and afterward at fort Washington, opposite the mouth of the Licking river. The Miami valley was explored as far north as Mad river, and in June, 1789, a bargain was made with Judge Symmes for the purchase of the seventh range of townships, which included the lands at the mouth of Mad river. A settlement was to be made, a town platted to be called "Venice", and a road cut through the woods from Columbia, at the mouth of the Little Miami. Mad river was to have been named "the Tiber". Indian hostilities defeated this enterprise. .On August 3, 1795, General Wayne concluded a treaty of peace with the Indians, and on the 20th of that month Governor St. Clair, Jonathan Dayton, of New Jersey, General James Wilkinson, and Colonel Israel Ludlow, of Cincinnati, contracted with Judge Symmes for the purchase of the seventh and eighth ranges between Mad river and the Little Miami. On the following 21st of September two parties of surveyors left Cincinnati to run the boundaries of the purchase and locate a road. November 1 came Colonel Ludlow with a party to lay out the town. This he completed on the 4th, and named the place in honor of the proprietors, "Dayton". The next day, on the spot, those present, for themselves or for others who desired to settle with the colony, drew for donation lots, each man being allowed one in-lot and one out-lot, with the privilege of purchasing 160 acres of land at the rate of a French crown per acre. The whole party then returned to Cincinnati, where, during the winter, a colony was organized, though but nineteen persons fulfilled their engagement when in the following spring (1796) the time for emigration arrived. The little colony moved in three parties, the first arrival at the site being on the 1st of April. The survey had been made on the site located on the south bank of the Miami, just below the mouth of Mad river. The plot was laid out in 280 in-lots, each 100 by 200 feet, and 54 out-lots of 10 acres each. There were also reservations for markets, schools, churches, and burial-grounds. Some of the settlers were induced to locate along the river-front on Water street, in the belief that the most desirable property would be near the landing from which in future years must be shipped the surplus products of the country; but the majority preferred to settle on the farming lands around. Over the plat were a number of small prairies, thickets, and clumps of timber. Cabins were at once constructed, and all timber within rifle range was felled, while a guard to prevent surprise from the Indians was maintained day and night. During the winter of 1796–'97 two or three families joined the colony, though the majority of newcomers took land away from the settlement. April 1, 1799, three years after the settlement of Dayton, the spot had nine cabins, but at the close of the winter of 1802–'03 about one-half of them were vacant. The probable cause of this was the discontent of the settlers and the hostility of the Indians. Fearing an attack, the settlers down the Miami had built a block-house opposite the mouth of Bear creek. Settlers above Dayton, on Mad river, and near, had on one or two occasions abandoned their cabins, but it was not until 1799 that the inhabitants of the section deemed it necessary to take special precautions. Block-houses were built in that year in all of the settlements. A large one was erected on the river-bank at the head of Dayton's main street. The men were organized and armed for defense, and made ready with their families to assemble at the block-house at the first alarm; but for a time the danger passed. In 1806 there were again fears of an Indian outbreak. The country to the north and west was thoroughly patrolled. Hunting and trading parties of Indians were constantly roaming through the forests to the west of the Miami. Often upon such expeditions large camps of them would locate opposite Dayton, but few at a time crossing over to the village to barter furs, venison, or wild honey for provisions, clothing, and ammunition. There was never serious trouble in keeping them under control.

On March 24, 1803, Montgomery county was formed, the act to take effect May 1, and Dayton was designated as the county-seat. The little hamlet in the woods possessed but few points to recommend it for such distinction. One-half the cabins were empty; except on Water street the whole plot was covered with bushes, vines, scrub-oaks, and plum thickets; wild game was abundant; wolves howled through the forest, and panthers were occasionally killed. There was not a store in the place. But now, as if under the impetus of this recognition, the village began at once to improve; streets were cleaned up and graded; and in 1804 a store was opened and a post-office was established. On the 12th of February the town was incorporated, the expense for running the same for the first year being $72. This year also saw the erection of the first brick building, "McCollom's tavern". Brick store-rooms were put up the next year, and in 1808 the first brick residence was erected, while roads were being opened to neighboring settlements. In 1810 the population of Dayton was 383. On the 12th of April, 1812, Dayton was designated as the rendezvous for the Ohio militia which had been called into governmental service in the war of that year against Great Britain, and for two years the town was filled with the business and excitement of a military camp. Men with capital came to engage in business, new stores were started, and every branch of trade prospered; real-estate speculation ran high and the place greatly improved.

At first the route from cabin to cabin was marked by blazed trees; thus bridle-paths were worn which were finally widened for sleds, and the one most used became the "big road" that led to Dayton. In this way roads to surrounding settlements were located. They were narrow, with but a single track, marked by deep ruts cut by loaded wagons, and were not much improved until 1839. After the invention of macadam, turnpike companies

were chartered and good toll pikes were built out from the town in all directions. Grain, pork, flour, whisky, and pelts were shipped by flat-boats to Cincinnati and New Orleans; and trade in this way increased until the canal was opened in 1829. The trip to the Ohio took nearly a week's time, and from six to ten weeks were required to reach New Orleans. Whatever of supplies were brought to the town were transported overland on pack-horses, or up the river in dugouts and pirogues. It was nearly a week's trip from Cincinnati by pack-horse, and ten days by river. Boating up the river was continued until the canal to Piqua was opened in 1837. Teaming could be carried on only in dry seasons, or when the roads were frozen.

As early as September 1, 1799, in the block-house at the head of Main street, Benjamin Van Cleve, as master, opened a school. Vacation was had through corn-gathering, after which the term was continued until spring work began. In the fall of 1804 Cornelius Westfall opened a school on the east side of Main street, south of First street, where he taught a year, being succeeded in 1805 by Swansey Whiting, who was followed by John Little, who arranged for the purpose and taught school in the Presbyterian cabin meeting-house, which stood in the burying ground on Main and Third streets. In 1807 the Dayton Academy was incorporated, a two-story brick school-house was built on Saint Clair street, north of Third street, and instruction was given until, in 1833, the property was sold and a new building was erected at the southeast corner of Fourth and Wilkinson streets. The first Ohio school law was passed in 1821, and simply authorized a vote in the townships upon the question of an organization of school districts. The law of 1825 authorized a general tax for school purposes, but "subscription schools" were continued in Dayton until 1831, when the public schools were first regularly organized. The first district school was organized December 5, 1831, on Jefferson street, between First and Water streets. The number of schools was increased as necessity required. The limits of the corporation of Dayton were made one school district in 1836, and $808 40 school-tax was collected and added to $500 received from the state fund. From these rude elements has grown the present admirable school system of Dayton.

Religious services were first held in the block-house at the head of Main street. During the next year the men of the village, aided by several from the neighborhood around, put up a log-cabin meeting-house for the Presbyterians on their lot at the northeast corner of Third and Main streets, where services were held until, in 1805, this denomination, by loaning the county $412, secured the right to use the court-room for church purposes, which right was exercised until the building of their brick church in 1817. The Methodists first held meetings at Hamer's hill, 2 miles up Mad river, where, in 1797, a class was formed. Services were occasionally held there and in Dayton until, in 1807, a class was formed in the village, which in 1811 had 24 members. In 1813 this sect built a church on Third street, opposite the old burying-ground. But few Baptists had settled in Dayton up to the year 1820, although in neighboring settlements there were flourishing churches. In May, 1824, a council assembled in Dayton, and a Baptist church was organized. The Episcopalians first held services in 1817, and two years later the parish was organized, but after a few years ceased to exist. A second effort was made in 1830, and in 1832 the church was built on Jefferson street. The Roman Catholics were a feeble colony until the arrival of several families of that faith in 1832, when frequent meetings were held in a room on Saint Clair street, and occasionally in the court-house. Their number steadily increased, and in 1837 Emmanuel church was built on Franklin street. The Lutherans formed a society in 1839, and in 1841 erected their building at the southwest corner of Fourth and Jefferson streets. The first German Reformed church was organized in 1833, and built a church edifice on Ludlow street in 1837. The First United Brethren church perfected an organization in 1850, and built a church on Sixth street, east of the canal, in 1852. All of these denominations, except the Episcopal, from time to time built branch churches in different parts of the city. Later other denominations and sects, including Dunkards and Jews, established themselves in the place.

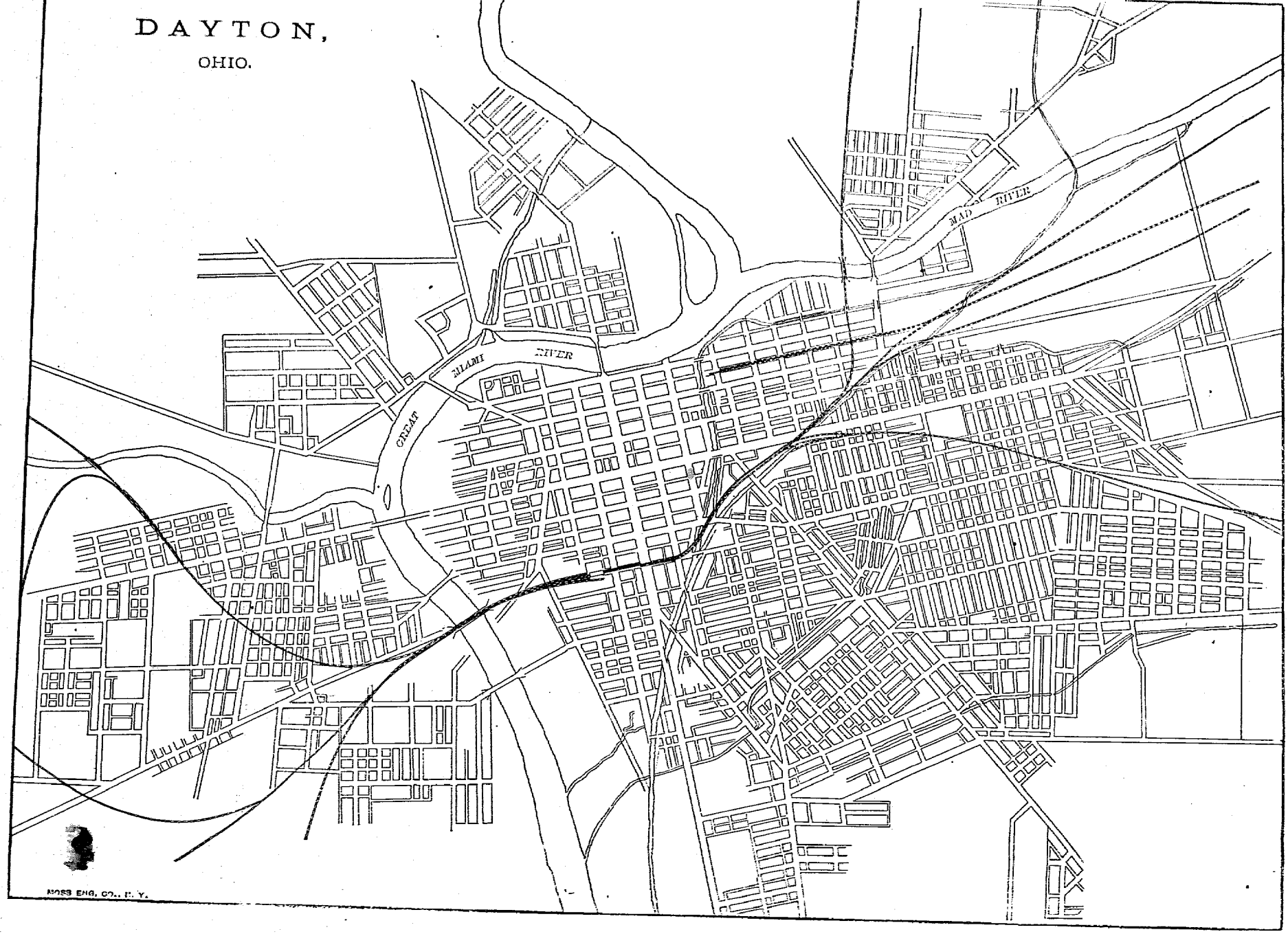
The pioneer burying-ground was at the northeast corner of Main and Third streets, which point was deemed to be far enough from the settlement to remain undisturbed for many years. This proved not to be the fact; but the same mistake was made in 1805 in locating the new graveyard on Fifth street, west of Ludlow; in 1841, in locating the beautiful Woodland cemetery; in 1844, in fixing the site of Saint Henry's cemetery; and ten years later, in establishing the Jewish cemetery. Dayton entirely underestimated its own probable growth, and the question of discontinuing interments in several of the cemeteries has now become a serious one.

The dissemination of news early became one of the enterprises of Dayton. The first paper was started in 1806, but did not continue long. It was followed by the Dayton *Repository*, from September, 1808, to January, 1810; the *Ohio Sentinel*, from May 3, 1810, to 1813; the *Ohio Republican*, from October, 1814, to 1816; the *Ohio Watchman*, from 1816, with several changes of name, to 1826; the *Miami Republican and Dayton Advertiser*, started in 1823, to 1826, when this and the last-named journal were consolidated, and in 1846 issued as the Dayton *Daily Journal*, which still continues; the Dayton *Republican* was started in 1830, and after various changes settled down as the *Herald and Empire*, being consolidated in 1876 with the Dayton *Democrat*, and called the Dayton *Daily Democrat*. In addition to these, several German papers were started, both daily and weekly. Two weekly religious papers are also published here, and besides those referred to above many others have been begun here, served their purpose, and ceased to exist.

The town charter was amended by the legislature in the winter of 1828–'29. By this act no person was entitled to vote at town elections except "free white male freeholders or householders over twenty-one years of age, who

DAYTON,

OHIO.



MOSS ENG. CO., N. Y.

have resided within the corporation one year next preceding the election". A city charter was granted March 8, 1841, subject to a vote of the people. The question was voted upon May 3, when 382 ballots were cast in favor of the charter and 378 against it; thus Dayton became a city by the small majority of 4 votes.

From a bend in Mad river at the northeast corner of the town damage by flood had often threatened the destruction of property, and several times in the history of the city the whole flat had been inundated. In 1840 surveys were made for straightening the channel of the river from the canal aqueduct west to the Miami river. Excavations were begun the next year and completed in the fall of 1842. During the winter water was turned into the new channel. After this change the canal was extended from First street up to the junction near the aqueduct.

Subscription books for a railroad, to be called the "Mad River and Lake Erie railroad", were opened March 8, 1847. The city subscribed $25,000, individuals as much more, and the next year the amount was increased to $150,000, of which $115,000 was collected. But the work was delayed until in February the city subscribed again for $25,000. Contracts were let, and the last rail was laid on Saturday, January 25, 1851, and on the 27th the first train came through from Springfield. The name of the road was subsequently lost in the "Cincinnati, Sandusky, and Cleveland railroad". Dayton's next road, the Cincinnati, Hamilton, and Dayton, was put under contract between Dayton and Hamilton in August, 1850, and was opened September 18, 1851; two train-loads of Dayton people going to Hamilton, where they were met by two trains of Cincinnati people, and the whole party returned to Dayton, where a great dinner was given. In June, 1848, the city subscribed $25,000 to aid the construction of the Dayton and Western railroad from Dayton to New Paris. In May, 1849, the city voted to loan the road $50,000. During the year the road was built 15 miles, out to Dodson. The Dayton, Xenia, and Belpré railroad was chartered February 19, 1851. Dayton township voted $15,000 to the road, and a large force was put to work between Dayton and Xenia. On May 17, 1854, this part of the road was opened, but it was never built farther.

From the first the water-power of the three streams that unite at or near the city limits, and flow through the city, has been a prominent feature. There is an abundance of water-power at this place, which supplies 100 of the larger mills and manufactories. The water-power frequently fails in dry seasons, so that all of the establishments have steam-power to fall back upon. The aggregate value, $12,000,000 of annual manufactures, is made up of work turned out by the car-shops, machine-shops, and founderies, in water-wheels, mill-machinery, engines, boilers, bridges, all kinds of heavy castings and machinery, stoves, malleable iron, and brass-work; and of the product of the extensive agricultural-implement shops, wood-working establishments and furniture factories, flour, oil, planing- and paper-mills, printing offices, breweries, and other large enterprises.

This tracing of the growth of the thriving subject of this sketch must close with a short notice of an institution that has contributed not a little to its fame.

THE SOLDIERS' HOME.

The National Home for Disabled Volunteer Soldiers was located on the hills 4 miles west of Dayton, in the year 1867, and now in the handsome buildings on the 600 acres of land are comfortably quartered 4,000 disabled veterans. The fine buildings include headquarters, the church, hospital, barracks, hotel, memorial hall, officers' residences, farm buildings, etc. In the cemetery lie buried the remains of 2,100 heroes, and near by is the beautiful monument of white marble erected to their memories by surviving comrades. Among the attractions of the home are the libraries, lake, conservatories, beautiful avenues and lawns, war relics, zoological garden, and the great siege guns and batteries with their pyramids of shot and shell.

DAYTON IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Dayton:

LOCATION.

Dayton lies on the south bank of the Great Miami river, and a little below the mouth of Mad river, 60 miles north-northeast of Cincinnati, 67 miles west by south of Columbus, and in latitude 39° 44′ north, longitude 84° 08′ west from Greenwich. The altitudes above sea-level are, average 800 feet, lowest point 775, and highest 950 feet. Its streams are not navigable, but water communication is afforded for canal-boats by the passage through the city of the Miami canal, connecting the Ohio river with lake Erie. It lies in the central eastern part of Montgomery county, of which it is the capital.

RAILROAD COMMUNICATIONS.

Dayton is admirably situated as to railroad communications, being upon the following lines:
The Cincinnati, Sandusky, and Cleveland railroad, termini Cincinnati and Cleveland.
The Cincinnati, Hamilton, and Dayton railroad, from Cincinnati to Toledo.

The Dayton and Western railroad, from Dayton to Richmond, Indiana.
The Dayton and Union railroad, between the points named.
The Dayton and Xenia railroad, between the points named.
The Dayton and Michigan railroad, termini Dayton and Toledo.
The New York, Pennsylvania, and Ohio railroad, between Dayton and Salamanca, New York.
The Columbus, Cleveland, Cincinnati, and Indianapolis railroad, from Cleveland to Indianapolis, with branches to Cincinnati and Columbus.
The Dayton and Southeastern railroad, from Dayton to Wellston, Ohio.

TRIBUTARY COUNTRY.

A few miles above Dayton the Great Miami receives the Stillwater river, and just above the city the Mad river. The valleys of these three rivers are unsurpassed in fertility, producing the most bountiful crops of corn, wheat, and tobacco. The water-power furnished by these streams (now largely supplemented by steam-power) is used in very extensive and varied manufactures in wood, iron, paper, grain, etc. The excellent limestone which underlies all this region forms a most important item of wealth. In some of the quarries nearest to Dayton the stone sells in the ground at $17 50 per rod, or $2,800 per acre, the title to the land not being alienated. This stone is readily converted into lime of excellent quality.

TOPOGRAPHY.

The soil of the site is gravel, which furnishes excellent cellarage. The country is rolling and higher than some portions of the city. The river affords natural drainage. Originally the whole region was densely wooded, but a large part has been cut off, and only occasional groves remain.

CLIMATE.

Highest recorded summer temperature, 100°. Lowest recorded winter temperature, —22°. The mean annual temperature, taken during a period of 5 years, is 51.4°. There are no marshes of sufficient size in the neighborhood to influence the climate. The prevailing winds are from the southwest.

STREETS.

Dayton has 100 miles of streets, and these, excepting about one-quarter of a mile of cobble-stones, are laid in gravel. The cost of the graveling is about 10 cents per square yard, the material being obtained freely at the river. Gravel is considered more economical than the cobble-stones. Of sidewalks, it is estimated that 80 per cent. are of gravel, 15 per cent. of stone flagging, and 5 per cent. of brick. Concrete, which was formerly used, is now prohibited. Gutters are paved with bowlders. The streets have rows of shade-trees along the outer edge of the sidewalks. The construction of streets—grading and graveling—is done by contract. All curbing, guttering, and the making of sidewalks, which is not done by the abutters in the time allotted for the work, is also let out by contract. Street repairs are made by day-work, under superintendence of the street commissioners. The cost of repairs for the year ending March 1, 1879, was $13,981 18. For all street-work a preference is expressed for the contract system. No steam-roller or stone-crusher is used.

There are 14¼ miles of horse-railroads, with 55 cars and 157 horses, and giving employment to 60 men. During the year 1,251,500 passengers were carried, at a uniform rate of fare of 5 cents, or 25 tickets for $1. The omnibus lines have 5 vehicles and 8 horses, employ 4 men, and carry annually 5,475 passengers, at 25 cents for each fare.

WATER-WORKS.

The water-works are owned by the city, and their total cost was $492,592 89. The Holly system is used, the pressure per square inch being, for ordinary purposes, 50 pounds, and for fires, 120 pounds. The average daily amount pumped during 1879 was 1,019,539 gallons. The cost of pumping 1,000,000 gallons is $26 25. Yearly cost of maintenance, aside from cost of pumping, $6,376 27, and the yearly income from water-rents, $18,640. Water-meters are used to a certain extent, and are found to result, where placed, in a marked reduction of consumption.

GAS.

The gas-works are not owned by the city. The charge per 1,000 feet is, for the city, $1 60, and for individuals, $1 75. The city pays annually $24 30 each for street-lamps, 884 in number.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, 1 city hall and market-house, 6 engine-houses, 2 police stations, 1 work-house, and 1 armory. The total cost of these buildings is given as $110,000. The cost of the city hall was $65,000.

the amount of expense the board may incur. The board has full care of the health of the city. Its authority enables it to suppress nuisances, to regulate the emptying of privy-vaults and the sale of diseased or decayed meats and vegetables, to prevent the pollution of streams, etc., and during epidemics to take measures for the checking of disease, establishing a quarantine, etc. The health officer is the chief executive of the board, carrying out its orders, and seeing that all health ordinances are enforced; his salary is $600 per annum. There are 2 sanitary policemen employed, salary $660 per annum each, who serve notices and have full police powers, and 2 river patrolmen are employed, to prevent the pollution of the stream above the water-works when the river is drawn on for supply. The board meets every two weeks, and transacts its business as a deliberative body. Regular house-to-house inspections are made over the entire city, special complaints, which form the basis of daily reports to the health officer, being attended to. These reports, on blanks made for the purpose, give the name of owner, kind of house, location, number and size of rooms, occupants, condition of yard and cellar, distance of vaults and sinks from wells, whether or not births or deaths have occurred since last visit, and whether or not reported to the clerk, and any other facts deemed of importance. When nuisances are reported a verbal order is given to abate; if this is not done, the fact is reported to the board, whose resolution is then secured, giving the offending party a specified time in which to comply, after which, if the nuisance still remains, it is abated by the board and the cost is assessed on the property. The regular inspections of the board include the noting and correcting of defective house-drainage, privy-vaults, cesspools, and sources of drinking water; but in cases of defective sewerage, street-cleaning, etc., it passes a resolution calling the attention of the city council, in whose charge these matters lie, to the defect, and here the board's obligation ceases. Over the conservation and removal of garbage the board exercises no authority, unless a nuisance is created. The board regulates the burial of the dead, and issues burial permits on receipt of the physician's and undertaker's certificate. The 2 sanitary policemen are in summer kept continually on duty to prevent the pollution of the river; and all excrement must be thoroughly disinfected before being removed.

INFECTIOUS DISEASES.

Small-pox patients are isolated at their residences, upon which are placed yellow flags; but cases of scarlet fever are not quarantined in any way. The board takes cognizance of the breaking out of contagious diseases in public and private schools, and removes the patient, closing the schools if necessary. The public pest-house is situated just within the city limits, remote from dwellings. Vaccination is compulsory only upon children attending schools, and is done at the public expense.

No record is kept of diseases, but births and deaths are reported by the attendant, or, if there be none, by the sanitary police, to the clerk of the board, who keeps a register of the same, which the health officer reports each week in condensed form, and publishes in the daily newspapers.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its own force. The work is done wholly by hand. The principal streets are cleaned about once a month, and the others about twice a year. The service is as efficient as it can be for the money expended for it, which, including the removal of garbage and ashes, is about $12,000 annually. The least offensive part of the sweepings is deposited on the low lots for filling, while the rest is cast on the river-banks. Complaint is made that not enough money is expended on the work, as the city covers much territory, and that the place of final deposit is too distant.

Removal of garbage and ashes.—Garbage is removed by the city with its own force. There appear to be no rules as to the conservancy of garbage while awaiting removal, except that it must be kept unmixed with ashes. It is cast into the alleys and streets previous to removal, and is finally thrown into the river, where also most of the ashes are deposited. The annual cost of the removal of these matters is $3,000. It is thought that no nuisance or injury to health results from improper handling or final deposit of garbage, but that occasionally improper keeping on premises may affect unfavorably the public health, and of this the board of health sometimes complains. In reply to the request, "Specify the merits and the defects of the system or of its execution," Mayor Hosier writes: "Cattle of all kinds running at large, upsetting vessels containing ashes, etc., is a serious detriment to cleanliness, etc."

Dead animals.—Animals dying within the city are removed beyond the limits by scavengers, who utilize their fat, etc., and receive nothing for the service. About 700 or 800 are annually removed, including cats and dogs. The defect of the system is that such small animals as it does not pay to render are frequently left in the streets and alleys.

Liquid household wastes.—The liquid household wastes, of whatever kind, are run indifferently into sinks and gutters. About four-fifths of it is run into the street-gutters, which receive very little flushing, and the rest into "sinks" or cesspools. Most of these latter are porous and without overflows, though a few have overflows delivering into the canal. When cesspools are used they often receive the wastes from water-closets. Cesspools are cleaned out in the same manner as vaults.

Human excreta.—The city of Dayton contains about 7,500 houses, of which about 500, or 6⅔ per cent., have water-closets, while the balance depend on privy-vaults, very few of which, if any, are water-tight. The dry-earth system is not used. The board of health requires that its permit be first obtained before the removal of the contents of any vault, sink, or cesspool; also that all such before removal, and privy-vaults after emptying, shall, from May 1 to October 1 of every year, be disinfected and rendered inoffensive. Night-soil is taken beyond the city limits and disposed of to gardeners, but its use as manure on lands within the gathering-ground of the public water-supply is not allowed.

Manufacturing wastes.—Most of the liquid and solid manufacturing wastes of Dayton runs into the river below the water-works supply, the rest runs into the canal. It is stated that this manner of disposal is not considered injurious to the public health.

POLICE.

The police force of Dayton is appointed and governed by the board of police commissioners. The chief executive officer is the captain and acting superintendent. His duties are a general supervision of the force and the making of "daily reports of such facts as may be imparted to him by the patrolmen". His salary is $1,200 per annum. The rest of the force, with their salaries, is as follows: 2 sergeants and 2 detectives at $810 per annum each; 3 roundsmen at $765 per annum each; 25 patrolmen at $720 per annum each; and 2 turnkeys at $600 per annum each. The uniform is of dark-blue cloth, made in the usual manner; costs about $40 per suit, and each man provides his own. The patrolmen are equipped with "fatigue clubs" or maces and belts, night clubs, double-acting revolvers, and whistles. The tours of duty are 11½ hours each, and all the streets in the city are patrolled by the force. During the past year 2,928 arrests were made, chiefly for the following causes: Drunkenness, 1,296; disturbing the peace, 313; assault and battery, 129; abusive language, 118; for safe-keeping, 117; suspicious characters, 100; and larceny, 97. The disposition of the prisoners was as follows: Fined and discharged, 752; committed to city prison, 641; and to work-house, 477; discharged, 372; dismissed, 213; bound over, 79; and miscellaneous, 394. During the year property to the value of $6,546 12 was reported to the police as stolen within the city, while the amount of property stolen both within and without and recovered by the police was $3,610 55, all of which was returned to the owners. At the station-house during the year 2,484 lodgers were accommodated, and meals to the value of $219 09 were furnished them. During 1879 there were 2,640 lodgers. The police force is required to co-operate with the fire department by responding to all alarms and affording protection to life and property. Upon the application of merchants and manufacturers for night-watchmen for their establishments, special policemen, in addition to the regular force and governed by the same rules, are appointed by the board of commissioners. During the past year one patrolman was murdered while in the discharge of his duty. The yearly cost of the police force (1880) is $27,597 32.

One of the features of the police system of Dayton is the holding by the board of a fund called the "police life and health insurance fund". By law no member of the board or of the police force is allowed to retain any fee, present, or emolument for public service other than the regular salary, except by the unanimous consent of the board; but all such fees, gifts, rewards, etc., and all moneys received from the sale of unreclaimed property is turned in to the board and constitutes this fund; "and whenever any member of the police force, in actual performance of his duty, shall become bodily disabled, his necessary expenses during the time of his disability may be paid from the above fund at the discretion of the board." The balance in this fund at the close of the present year (1880) is $871 07.

FIRE DEPARTMENT.

The Dayton fire department consists of a manual force of 28 officers and men, with the following apparatus: 3 steam fire-engines, 2 being held in reserve; 1 chemical extinguisher; 1 two-horse hook-and-ladder truck, and 1 one-horse hook-and-ladder truck held in reserve; 6 hose-reels; 3 wagons; and 9,500 feet of 2½-inch hose. There are also 14 horses used by the department. During the past year the department has responded to 42 alarms in which fire occurred, involving a loss of $3,535. The amount of insurance involved was $17,200, and the total value of property jeopardized was $788,555. The Gamewell automatic system of fire-alarm telegraph is in use, and includes 30 miles of wire, divided into 4 circuits, to which 40 street signal-boxes are attached. The engine-houses, hose-houses, and the residence of the chief engineer are in communication by telephone.

PUBLIC SCHOOLS.

Dayton's school system includes 1 high school, with 8 rooms; 1 normal school, with 1 room; 1 intermediate school, using 4 rooms; and 10 district schools, using 105 rooms. This leaves 7 school-rooms not in use. The seatings number 6,149. The number of school-children between the ages of 6 and 16 years is 8,693. They are taught by 125 teachers (including 1 teacher in normal school)—21 males and 104 females—as follows: High school, 8; normal school, 1; intermediate school, 5; district schools, 109; and 1 music and 1 writing teacher. The enrollment for the year, is 6,114.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Dayton for 1880, being taken from tables prepared for the Tenth Census by J. H. Thomas, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	Average number of hands employed.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	495	$6,063,334	5,071	513	441	$2,293,630	$6,434,225	$11,985,483
Agricultural implements	12	914,000	577	.....	20	212,613	468,536	1,187,204
Blacksmithing (see also Wheelwrighting)	15	12,100	36	.....	.....	15,780	9,400	47,330
Bookbinding and blank-book making	3	22,000	11	11	3	10,700	21,500	54,000
Boots and shoes, including custom work and repairing	52	11,975	72	5	2	35,108	30,663	95,208
Bread and other bakery products	20	101,025	64	2	0	26,975	163,340	229,110
Carpentering	37	139,050	240	.....	4	120,701	300,222	642,591
Carpets, rag	4	925	4	.....	.....	1,250	1,650	3,750
Carriages and wagons (see also Wheelwrighting)	12	78,000	146	.....	7	56,930	81,750	212,000
Clothing, men's	19	115,700	226	119	3	122,155	202,900	426,000
Coffee and spices, roasted and ground	4	18,700	18	4	.....	10,495	80,300	112,675
Confectionery	10	17,100	29	22	.....	10,343	78,100	114,500
Cooperage	9	26,450	51	.....	1	17,670	46,447	81,151
Flouring- and grist-mill products	8	314,000	64	.....	.....	29,705	1,134,529	1,341,658
Foundery and machine-shop products (see also Iron work, architectural and ornamental).	16	785,000	697	.....	36	299,739	484,852	1,062,887
Furniture (see also Upholstering)	14	151,850	136	3	12	55,490	89,150	217,554
Iron work, architectural and ornamental (see also Foundery and machine-shop products).	3	33,000	61	.....	.....	11,800	57,200	104,600
Iron railing, wrought	3	23,400	13	.....	1	5,060	14,400	30,000
Leather, curried	4	31,000	13	.....	.....	9,340	75,030	99,275
Leather, tanned	4	19,500	8	.....	.....	3,740	49,434	63,525
Liquors, malt	8	193,428	49	.....	.....	25,139	108,630	194,021
Lock- and gun-smithing	3	1,300	6	.....	.....	2,500	1,750	5,600
Looking-glass and picture frames	4	34,200	5	1	.....	2,076	13,800	26,000
Marble and stone work	6	21,800	32	.....	.....	13,280	17,100	45,100
Masonry, brick and stone	33	35,125	287	.....	7	121,070	102,225	370,000
Oil, linseed	3	102,500	30	.....	.....	11,500	255,000	315,000
Painting and paperhanging	12	4,250	46	.....	.....	16,785	10,525	41,570
Paper	4	670,000	199	35	20	80,975	143,709	476,104
Patent medicines and compounds	4	3,700	3	1	2	1,145	7,700	23,750
Plumbing and gasfitting	6	38,300	47	.....	.....	23,118	61,211	105,612
Printing and publishing	10	244,600	183	55	22	97,885	126,018	332,624
Pumps, not including steam pumps	4	1,200	5	.....	1	1,850	2,200	8,000
Saddlery and harness	11	41,350	72	.....	5	31,560	63,050	133,460
Slaughtering and meat-packing, not including retail butchering	5	50,500	27	.....	2	20,980	178,136	230,318
Tinware, copperware, and sheet-iron ware	18	27,600	70	.....	2	31,525	37,350	93,625
Tobacco, cigars and cigarettes	28	71,900	144	57	25	74,987	91,000	206,976
Upholstering (see also Furniture)	4	17,300	8	.....	2	4,460	15,700	29,300
Watch and clock repairing	8	5,525	16	.....	1	9,330	5,235	22,370
Wheelwrighting (see also Blacksmithing; Carriages and wagons)	6	5,900	17	.....	.....	5,780	5,950	10,610
Window blinds and shades	4	3,900	5	2	.....	2,800	7,200	12,950
All other industries (a)	65	1,728,161	1,464	196	258	653,351	1,725,054	3,964,375

a Embracing awnings and tents; bagging, flax, hemp, and jute; bags, paper; baskets, rattan and willow-ware; boxes, cigar; boxes, fancy and paper; brass castings; bridges; brooms and brushes; cars, railroad, street, and repairs; carriage and wagon materials; clothing, women's; cotton goods; cutlery and edge tools; drain and sewer pipe; dyeing and cleaning; electroplating; fancy articles; files; flax, dressed; hairwork; hardware; hats and caps; hosiery and knit goods; ink; kaolin and ground earths; lasts; liquors, distilled; lumber, sawed; malt; mineral and soda waters; models and patterns; musical instruments, organs and materials; oil, lard; paints; refrigerators; roofing and roofing materials; sash, doors, and blinds; saws; shirts; soap and candles; stationery goods; steam fittings and heating apparatus; stencils and brands; stone- and earthen-ware; tobacco, chewing, smoking, and snuff; toys and games; trunks and valises; umbrellas and canes; varnish; and woolen goods.

From the foregoing table it appears that the average capital of all establishments is $12,249 16; that the average wages of all hands employed is $380 69 per annum; and that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is $18,366 98.

HAMILTON,

BUTLER COUNTY, OHIO.

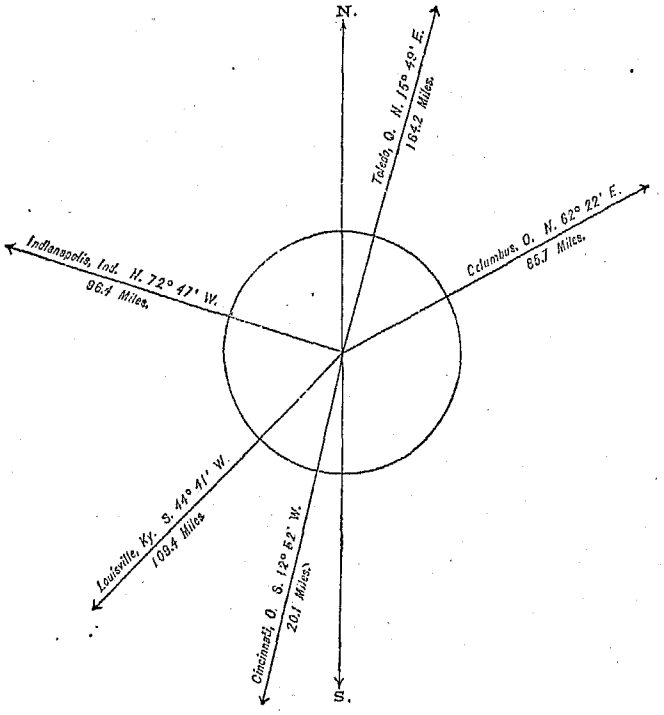
POPULATION

IN THE

AGGREGATE,

1850-1880.

	Inhab.
1790	.....
1800	.....
1810	.....
1820	.....
1830	.....
1840	.....
1850	3,210
1860	7,233
1870	11,081
1880	12,122



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	5,895
Female	6,227
Native	9,587
Foreign-born	2,535
White	11,830
Colored	292

Latitude: 39° 23′ North; Longitude: 84° 25′ (west from Greenwich).

FINANCIAL CONDITION:

Total Valuation: $6,194,460; per capita: $511 00. Net Indebtedness: $53,067; per capita: $4 38. Tax per $100: $2 30.

HAMILTON.

Hamilton, the capital of Butler county, is situated on either bank of the Great Miami river, about 25 miles north of Cincinnati. The Cincinnati, Hamilton, and Dayton railroad, from Cincinnati to Toledo; the Cincinnati, Richmond, and Chicago railroad, from Cincinnati to Richmond, Ohio; the Cincinnati, Hamilton, and Indianapolis railroad, between the points named; and the New York, Pennsylvania, and Ohio railroad, from Salamanca, New York, to Cincinnati, pass through the city. The Miami and Erie canal also passes through Hamilton. The city has quite extensive manufacturing industries, the canal and river affording united water-power.

No further information regarding the city was furnished.

PORTSMOUTH,

SCIOTO COUNTY, OHIO.

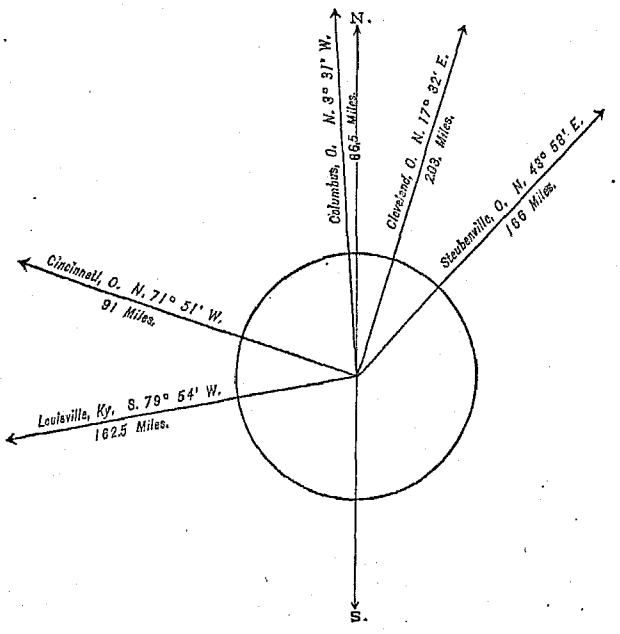
POPULATION

IN THE

AGGREGATE,

1820-1880.

	Inhab.
1790	
1800	
1810	
1820	527
1830	1,063
1840	
1850	4,011
1860	6,268
1870	10,592
1880	11,321



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	5,441
Female	5,880
Native	9,695
Foreign-born	1,626
White	10,352
Colored	969

Latitude: 38° 42′ North; Longitude: 82° 53′ (west from Greenwich); **Altitude: 520 to 537 feet.**

FINANCIAL CONDITION:

Total Valuation: $4,694,617; per capita: $415 00. Net Indebtedness: $317,809; per capita: $28 07. Tax per $100: $2 86.

HISTORICAL SKETCH.

The commercial importance of the mouth of the Scioto river was early recognized by the French pioneers in America, and a trading-post was established on the western shore of the river, some time, it is claimed, before fort Duquesne was founded. The site thus chosen was again selected for the location of a town in 1790, when Alexander Parker founded the town of Alexandria near where the French post had stood; but the place was only 50 feet above the low-water mark in the Ohio, while floods often rose 50 and 60 feet above that point, and after being inundated several times the settlement was abandoned in 1808. Five years previously, however, Henry Massey purchased several sections of land on the east bank of the Scioto, and here, on a bluff high above the highest floods, he founded the town of Portsmouth. The first decided impetus was given the town in 1832, when

the Ohio canal, which entered the Ohio river at Portsmouth, was completed. This canal connected the waters of lake Erie with those of the Ohio, and by its means a large internal commerce was carried on, from which Portsmouth derived great advantage. The decade from 1830 to 1840 was one of very rapid advance in wealth and population. The years since 1840 have seen a steady advance in the prosperity of the town, now city, which has been checked only by causes which affected also the whole country. It is the distributing point for the mineral and agricultural productions of southern Ohio and northeastern Kentucky, carrying on a wholesale trade to the amount of over $7,000,000 in 1876, at a time, too, when all business was dull; for Portsmouth, after sharing the great prosperity of the years from 1868 to 1873, shared also in the period of depression which followed. It has several rolling-mills, founderies, and other manufacturing establishments. It has numerous schools, churches, and societies.

PORTSMOUTH IN 1880.

The present condition of the city may be seen from the following statistical accounts, mainly furnished by Hon. George W. Crawford, mayor:

LOCATION.

Portsmouth is situated in latitude 38° 42′ north, longitude 82° 53′ west from Greenwich, on the east bank of the Scioto river at its junction with the Ohio river, about 116 miles above Cincinnati and 90 miles south of Columbus. The lowest point is 520 feet and the highest 537 feet above the sea-level, while the average altitude of the city is about 530 feet. The city is at the head of navigation on the Ohio during the season of low water; it has an excellent river front, said to be with one exception the finest on the river. The Scioto is navigable for only 7 miles above Portsmouth. The city is the southern terminus of the Ohio canal, through which it has water communication with lake Erie at Cleveland.

RAILROAD COMMUNICATIONS.

The city is connected with Cincinnati and Marietta by a branch of the Marietta and Cincinnati railroad, and with Columbus by the Scioto Valley railroad.

TRIBUTARY COUNTRY.

The valleys of the Scioto and Ohio rivers are rich agriculturally, and send a large part of their products to market by way of Portsmouth. The city is on the edge of a fine iron region, in which there are a number of iron furnaces and mills; but in general the tributary country is devoted to agriculture rather than to manufacturing.

TOPOGRAPHY.

The city is situated on a bluff extending some miles eastward from the Scioto river. The soil of the surrounding valley is very fertile; the country within a radius of 5 miles is not covered with wood, though there is a considerable growth of underbrush.

CLIMATE.

The highest recorded summer temperature is 106°, the highest in average years, 98°. The lowest recorded winter temperature is −12°, and the lowest in average years −2°. The Ohio river tends to moderate the cold of winter, and from September 1 to December 1 and in spring causes much fog. There are no marshes, but the low rich land holds much decaying vegetation and is a cause of considerable malaria. Elevated lands in the vicinity protect the city from winds and render the latter very changeable.

STREETS; WATER-WORKS; GAS; PUBLIC BUILDINGS.

No information on these subjects was furnished by the city authorities.

PUBLIC PARKS AND PLEASURE-GROUNDS.

Tracy Park, a tract of land containing about 3 acres, and situated between Chillicothe, Gray, Ninth, and Tenth streets, was presented to the city by Mr. Samuel Tracy, and is the only public park in Portsmouth. The cost of maintenance is nothing to the city, as the park is leased to a florist who keeps it in order in return for its use. It is under the supervision of the committee on parks, one of the committees of the common council.

PLACES OF AMUSEMENT.

Wilhelm's opera-house, seating capacity 850, is the only theater. It pays an annual license of $50. There are a number of small halls, seating from 100 to 300, which are used chiefly as ball-rooms. There are 3 beer-gardens, all well patronized.

DRAINAGE.

Sewerage works are built according to the supposed requirements of each case, or extended as the city is able to make the expenditure. There is no official map of existing sewers, nor plan fixing the future work to be done. A large number of sewers are reported to have been built, but there is no authentic record of their extent or cost. The outfall of sewers is to the Scioto or to the Ohio river. Mouths of sewers are above water and fully exposed, except a few, which are exposed only at low water. Ventilation is through cast-iron gratings in the stone covering of inlets.

The cost of construction is paid by the city. Inlets cost, at the average rate, $25 to $35 each; manholes, $22 to $28 each.

CEMETERIES.

Portsmouth has 2 cemeteries: *Green Lawn Cemetery*, situated on a hill a mile east of the city, and containing 25 acres; and *Catholic Cemetery*, situated about 2 miles east of Portsmouth, and containing 12 acres. Both are managed by private corporations, the latter by the Catholic church. No burial is allowed until a permit has been granted by the board of health. Graves are made 4 feet deep. The control of the board of health has been exercised only during the past two years, and hence no record of the number of interments is obtainable.

MARKETS.

The city has 2 market-houses, but no information in regard to their business and income was furnished by the city authorities.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority is vested in a board of health, consisting of the mayor *ex officio* and 5 members, 1 a physician, appointed by the city council. The board is an independent body, and meets once a month, or when summoned by the mayor, who is president *ex officio*. The annual expenses in the absence of an epidemic are about $800, for salaries of the sanitary policeman, market-master, and clerk, for medicines, and for the abatement of nuisances. There is no limit, except the discretion of the board, during the prevalence of an epidemic. Its authority both in the presence and in the absence of an epidemic is sufficient to prevent the introduction of disease, to maintain a good sanitary condition of the city, and, if necessary, to care for the sick. One assistant, the sanitary policeman, is employed; he has the same police powers as any policeman.

NUISANCES.

Inspections are made by the committees of the board of health, and when nuisances are found they are abated at once, either by the owner of the premises on which they occur or by the sanitary policeman, who is also expected to make inspections. Defective house-drainage, privy-vaults, cesspools, and sources of drinking-water are inspected and treated as nuisances. Defective sewerage and street-cleaning are rectified by the street commissioner when his attention is called to them by the sanitary policeman or by the board of health.

BURIAL OF THE DEAD.

A permit must be obtained from the clerk of the board of health before any interment will be allowed. This states the name of the deceased, with birthplace, date of birth, date of death, date of interment, disease, occupation, and the name of the undertaker in charge, and is given to the sexton of the cemetery in which the burial is to be made.

INFECTIOUS DISEASES.

Small-pox patients are isolated in a pest-house not far from the city; scarlet-fever patients are quarantined at home. When contagious diseases break out in the public schools they are closed by the school board, the sufferers from the disease coming under the control of the board of health. Vaccination is not compulsory, but is done at the expense of the city for those who wish it.

REPORTS.

The board makes an annual report to the city council, which is published with the other city reports.

Births are recorded by the probate judge; deaths by the clerk of the board of health.

MUNICIPAL CLEANSING.

Street-cleaning.—At present the streets are cleaned by a contractor, but the system fails to give satisfaction.

Removal of garbage and ashes.—The householders are required by the city ordinances to place their accumulations of house-offal, rubbish, and ashes in the alleys back of their residences, so that it can readily be collected by a contractor paid by the city for this service.

Dead animals.—The carcasses of dead animals are removed by the sanitary policeman and buried. About 25 are removed each year, at a cost to the city of about $50.

Liquid household wastes.—Only a small part of the kitchen and laundry wastes flow into the public sewers, nearly all running into the street-gutters, which are flushed only by the rain. Chamber-slops are thrown into privy-vaults. Cesspools are not in use.

Human excreta.—Nearly all the houses of the city depend on privy-vaults, which in all cases are pits 40 or 50 feet deep dug down until sand or gravel is reached. The liquid matter from these filters away through the earth, the solid matter remains, and when the pit is full it is covered with earth and the privy removed and placed over a new pit. The liquid wastes find their way into the Scioto and Ohio rivers, the water in the river sensibly affecting the contents of the pits. Only a few water-closets are in use, while earth-closets are unknown.

Mannfacturing wastes.—No system of disposing of manufacturing wastes has been elaborated.

POLICE.

The police force of Portsmouth is appointed by the mayor, and is under the command of the city marshal, who has general charge of the department, and receives a salary of $650 from the city, $100 from the state, and constable fees in all cases. The rest of the force consists of 6 night-watchmen, salary $50 per month; 1 day-policeman, salary $40 per month; and 1 turnkey, salary $30 per month. The uniform consists of a blue-cloth suit with brass buttons, and a helmet hat in summer, a police cap in winter. The men purchase their suits, but the hats and caps are furnished by the city. They are armed with a revolver and a short club; the night-watchmen are on duty from one hour after sunset until daylight. During the past year they made 385 arrests, the principal cause being drunkenness. There is no record of the station-house lodgers. Special police are appointed by the mayor for duty at railway depots, steamboat-landings, factories, etc.; they are under the general control of the marshal, but are not paid by the city.

The police are not expected to assist the other departments of the city government except when the city ordinances and laws are being broken. The annual cost of the force is nothing besides the salaries of the men.

SANDUSKY,

ERIE COUNTY, OHIO.

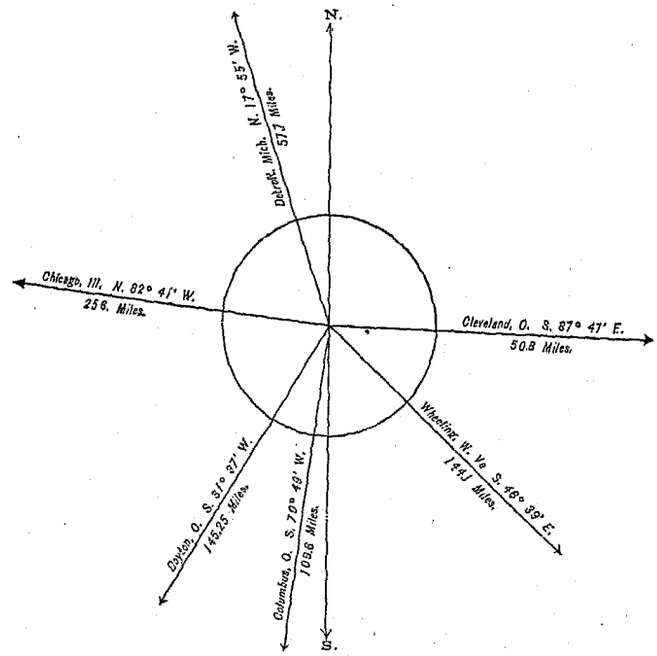
POPULATION

IN THE

AGGREGATE,

1830-1880.

	Inhab.
1790	.....
1800	.....
1810	.....
1820	.....
1830	593
1840	.....
1850	5,087
1860	8,408
1870	13,000
1880	15,838



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	7,936
Female	7,902
Native	11,283
Foreign-born	4,555
White	15,567
Colored	*271

* Including 1 Chinese.

Latitude: 41° 32′ North; Longitude: 82° 42′ (west from Greenwich).

FINANCIAL CONDITION:

Total Valuation: $4,041,913; per capita: $255 00. Net Indebtedness: $381,215; per capita: $24 07. Tax per $100: $3 80.

SANDUSKY.

Sandusky is situated about 50 miles west, in an air-line, from Cleveland, and 100 miles north by east from Columbus, on land rising gently from the shore of Sandusky bay, an arm of lake Erie, about 15 miles long and 4 miles wide, and was laid out in 1817 by Zalman Wildman and Isaac Hill. It early became an important point, as its harbor is one of the finest on the lake, and engaged largely in ship-building and fisheries, both of which are still leading industries. It was among the first places in Ohio to engage in railroad construction, and was largely instrumental in building the Sandusky, Dayton, and Cincinnati railroad, which was completed about 1847, and immediately verified the expectations of the merchants of Sandusky by the additions it made to the trade of the town. Within easy reach of large coal- and iron-fields, it has availed itself of its advantages, and is now quite important as a manufacturing city. Its schools are among the best in the state, and many of the buildings are

fine specimens of architecture. The city is underlaid by rock near the surface, in which are fine quarries of excellent building-stone, which has been largely used in its buildings. It is supplied with both gas and water. The Baltimore and Ohio, the Cincinnati, Sandusky, and Cleveland, and the Lake Shore and Michigan Southern railroads enter the city and connect it with all the important eastern and western cities, while lines of steamers run regularly to Detroit, Toledo, Cleveland, and the islands of lake Erie. Its location is a beautiful one, and the health of the city is so good that until recently no attention has been paid to sanitary matters, which are, however, now beginning to attract attention. The streets of the city, while well laid out, have not been carefully kept; the household accumulations of garbage and ashes are left to private persons to care for; two-thirds of the household wastes are run into the street-gutters, as there is no system of sewers; and not 2 per cent. of the houses are provided with water-closets. Sandusky has 2 theaters and 2 public halls. There are about 30 churches.

No other information was furnished.

SPRINGFIELD,

CLARKE COUNTY, OHIO.

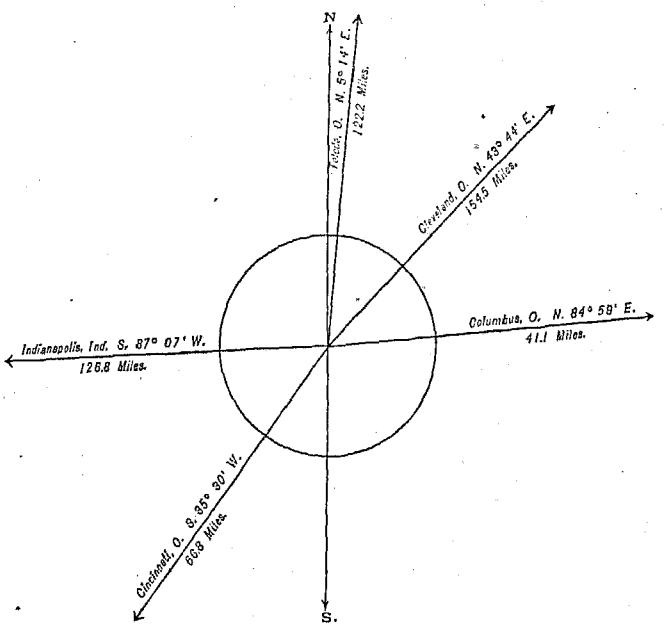
POPULATION

IN THE

AGGREGATE,

1820-1880.

	Inhab.
1790	.....
1800	.....
1810	.....
1820	1,863
1830	1,080
1840	2,062
1850	5,108
1860	7,002
1870	12,652
1880	20,730



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	10,563
Female	10,167
Native	17,646
Foreign-born	3,084
White	18,368
Colored	*2,362

*Including 2 Chinese.

Latitude: 39° 54′ North; Longitude: 83° 46′ (west from Greenwich).

FINANCIAL CONDITION:

Total Valuation: $9,682,759; per capita: $467 00. Net Indebtedness: $58,627; per capita: $2 83. Tax per $100: $1 90.

HISTORICAL SKETCH.

In the year 1803 a settlement was made in the rich farming lands near the junction of Lagonda creek with the Mad river, and from this insignificant hamlet has grown the city of Springfield. The town was found to rest upon valuable quarries from which limestone in almost inexhaustible quantities could be obtained. The layers near the surface produce lime of so fine a quality that Springfield lime is the standard in the markets of Cincinnati and the West; while the deeper layers yield a stone admirably adapted to building purposes. The Mad river rushes along near at hand, furnishing a water-power which the people were not slow in utilizing. The old national road and the road from Cincinnati to Sandusky passed through the town and greatly aided its growth. With the construction of railways the progress became more rapid; and the result of a fine location, excellent natural advantages, and good means of transportation in the possession of an energetic people is seen in the Springfield of to-day—a city of 20,730 inhabitants busily engaged in trade and manufactures, principally of iron goods, proud of their fine public schools, and mindful of the claims of their many churches; the seat of Wittenberg college; and, in rank, the fifth city of Ohio.

SPRINGFIELD IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Springfield:

LOCATION.

Springfield is situated in latitude 39° 54′ north, longitude 83° 46′ west from Greenwich, in the center of Clarke county, Ohio, about 45 miles west from Columbus, 60 miles north-northeast from Cincinnati, and 150 miles southwest from Cleveland. It is not on navigable water.

RAILROAD COMMUNICATIONS.

The New York, Pennsylvania, and Ohio railroad, termini Salamanca, N. Y., and Cincinnati, passes through the city; the Cincinnati, Sandusky, and Cleveland; the Columbus, Springfield, and Cleveland; and the Cleveland, Columbus, Cincinnati, and Indianapolis railroad connect it with the cities mentioned in the names of the lines. The city is on the Springfield branch of the little Miami division of the Pittsburgh, Cincinnati, and Saint Louis railroad, and is the northern terminus of the Springfield Southern railroad, which connects it with Jackson, Ohio.

TRIBUTARY COUNTRY.

The land surrounding the city is largely devoted to agriculture, yet much manufacturing is carried on in the vicinity; and there are many quarries from which are obtained valuable building stone, and a limestone, yielding, when burned, lime of an excellent quality.

TOPOGRAPHY.

The soil of Springfield is a drift deposit of great fertility, overlying limestone rocks belonging to the Niagara group. The variations in level are considerable, and the natural drainage through Lagonda creek and Mad river is excellent. There are no lakes in the immediate vicinity; and the demand for wood created by the lime-kilns has stripped the country of most of its forests.

CLIMATE; STREETS; WATER-WORKS; GAS; PUBLIC BUILDINGS; PUBLIC PARKS AND PLEASURE-GROUNDS.

No information on these subjects was furnished.

PLACES OF AMUSEMENT.

Black's opera-house, seating about 1,500, and the Grand opera-house, seating 1,200, are the theaters of Springfield. Each pays an annual license of $50 to the city. The city hall, seating capacity 800, and Duquesne armory, seating capacity 500, are used as public halls, as is also the Wigwam, a hall with room for 2,000 seats. There are no concert- and beer-gardens.

SEWERAGE AND DRAINAGE.

Springfield has no system of sewers. The only public sewer is Mill Run creek, which has been covered over for one-third of a mile, and receives the contents of drains. It is ventilated at the gutter-openings. Several private sewers empty below the surface into Buck creek, and others into several ditches which traverse the city. The Mill Run sewer and one underground drain in the eastern part of the city were built at the public expense. The cost of the private drains is met by an assessment upon those who use them, based upon the front foot and the amount of actual use. Plans and specifications for the construction of an adequate system of sewers are now under consideration.

CEMETERIES.

No information on this subject was furnished.

MARKETS.

The space on Market street, from High to Washington streets, except 40 feet in the center of the street, is divided into stands, and with the market-house, a small two-story brick building, constitutes the market of Springfield. There is no classification either of stalls or of stands, and they are let to the highest bidder, provided that no individual has more than one. The annual income is about $1,300. The market is under the supervision of the market clerk, salary $200 a year, and is open on Tuesdays, Thursdays, and Saturdays, from 5 to 9.30 a. m., and on Saturday afternoons from 5 to 9.30. About one-half of the retail supply of meats for the city is obtained at the market, and one-quarter of the vegetables. No estimate of the gross amount of the annual sales could be made. The second story of the market-building is used as a city hall.

SANITARY AUTHORITY—BOARD OF HEALTH.

In the year 1876 the city council passed an ordinance creating a board of health for the city, to consist of the mayor *ex officio*, and 6 members to be appointed by the city council, which should have power, both in the presence and absence of any epidemic, to care for the public health, and to remove and abate all nuisances, charging the expense upon the offending estate. This board has been appointed only when the council wished, and its authority has practically been nothing. The members serve without compensation, and the annual expenses in the absence of an epidemic amount to very little. By an ordinance passed in September of the present year two sanitary marshals are created, whose duty is to see that all sanitary ordinances are obeyed; to serve such notices as the council may direct, and, in general, to assist in maintaining a good sanitary condition of the city. The marshals receive $1,200 a year each, and are not under the control of the board of health.

NUISANCES.

The sanitary marshals are supposed to make an inspection of all parts of their districts once each month. When nuisances are found they are at once abated, and the expense is charged upon the estate at fault; the assessment is then certified to the county auditor, becomes a lien on the estate, and is collected according to law.

BURIAL OF THE DEAD.

No interment can be made until a permit has been obtained from the city clerk, or, in his absence, from one of the committee on cemeteries.

INFECTIOUS DISEASES.

Small-pox patients are isolated in a pest-house on the northern confines of the city; scarlet-fever patients are quarantined at home, and no members of the family are allowed to attend the public schools. Should contagious diseases break out in the public schools the board of education has full authority to take any action it deems best. Vaccination is neither compulsory nor done at the public expense.

There is no system of registration of births, diseases, and deaths.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned by the abutters, and the piles of dirt thus made are removed by the city's force. On business streets this is done once a week, on other streets occasionally. The system gives no satisfaction, though it costs the city from $2,000 to $4,000 a year. The sweepings are used in filling up low lands.

Removal of garbage and ashes.—Garbage is removed by the householders in such ways as they see fit; ashes are removed by the city's force. No ordinance prohibits keeping garbage and ashes in the same vessel. The ashes are used for filling in low places. The cost of the service to the city is about $1,000 a year. Nuisances arise from the improper handling and keeping of garbage, and the present system causes much dissatisfaction owing to its incompleteness.

Dead animals.—The carcasses of dead animals are in general removed by teams sent from a rendering establishment not far from the city; sometimes by the street commissioner. The city ordinances forbid any owner of a dead animal to allow the carcass to remain in the city, or to throw it into any stream within the city limits.

Liquid household wastes.—Fully one-half of the kitchen and laundry wastes are run into the street-gutters, one-fourth goes into cesspools, and the rest into the few public and private sewers. Chamber-slops are thrown into privy-vaults. The cesspools are porous and unprovided with overflows, and in a few cases receive the wastes from water-closets. Many wells have been contaminated by the leakage from cesspools and privy-vaults. The street-gutters are flushed only by the rain.

Human excreta.—Little more than 1 per cent. of the houses are provided with water-closets, the rest depending on privy-vaults, as the dry-earth system is not in use. Perhaps 15 per cent. of the water-closets deliver into the public and private sewers, the rest delivering into cesspools and privy-vaults. Very few of these vaults are water-tight. The city ordinances require the owners to prevent the vaults becoming nuisances. Night-soil is disposed of by dumping it into either Buck creek or Mad river, below the city. It is not used as manure.

Manufacturing wastes.—There are no wastes needing ordinances to regulate their disposal.

POLICE.

The police force is appointed by the mayor and confirmed by the city council. It is governed by the mayor and the chief of police, the latter of whom is the chief executive officer, who is expected to enforce the laws and ordinances and to superintend his department; his salary is $75 per month. The rest of the force consists of 11 patrolmen, each of whom receives $60 per month. The uniforms are of blue cloth, and are furnished by the men at an average cost of $60. The men are armed with revolver, hand cuffs, twisters, and a police club; they are on duty 10 hours for day men, 9 hours for night men, and patrol 50 miles of streets. During the past year 2,360 arrests were made,

drunkenness and disorderly conduct being the principal causes. No record is kept of property lost and recovered, or of the number of station-house lodgers. The force is expected to co-operate with the fire department. Five reserve policemen are appointed by the mayor and confirmed by the council, from whom all vacancies in the regular force are filled. The annual expense of the department is about $10,000.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Springfield for 1880, being taken from tables prepared for the Tenth Census by J. Milton Benson, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	Average number of hands employed.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	170	$7,255,953	3,741	47	182	$1,037,212	$4,550,569	$6,462,443
Agricultural implements	13	5,773,000	2,284	.....	95	1,050,725	3,083,490	5,738,382
Blacksmithing (see also Wheelwrighting)	13	9,485	30	.....	.....	11,789	8,006	29,410
Boots and shoes, including custom work and repairing	8	14,300	26	2	1	14,000	10,937	33,850
Bread and other bakery products	9	24,250	38	5	1	17,268	48,453	81,100
Brick and tile	7	87,200	135	.....	17	28,021	12,027	65,445
Carpentering	22	22,800	106	.....	.....	49,369	105,574	177,957
Clothing, men's	7	33,500	38	26	.....	29,000	57,488	110,000
Flouring- and grist-mill products	9	171,000	33	.....	.....	13,762	331,894	368,062
Foundery and machine-shop products	8	172,100	251	.....	20	77,616	155,376	431,730
Lime	5	75,500	62	.....	.....	22,935	24,225	70,180
Marble and stone work	3	9,000	7	.....	.....	5,300	5,000	14,000
Painting and paperhanging	6	6,000	21	.....	.....	9,760	11,600	30,381
Photographing	6	6,400	12	2	.....	6,400	3,200	13,710
Printing and publishing	5	137,200	79	6	3	43,800	77,400	166,852
Pumps, not including steam pumps	3	1,000	6	.....	.....	2,950	3,000	8,500
Saddlery and harness	3	7,400	17	.....	1	8,100	11,200	26,500
Tinware, copperware, and sheet iron ware	7	18,500	10	.....	1	8,510	23,731	44,100
Wheelwrighting (see also Blacksmithing)	6	21,950	31	.....	7	12,980	10,000	27,383
All other industries (*a*)	30	664,768	546	6	36	224,927	505,988	1,021,301

a Embracing baking and yeast powders; bookbinding and blank-book making; carriages and wagons; coffins, burial cases, and undertakers' goods; cooperage; drain and sewer pipe; electroplating; files; furniture; leather, tanned; liquors, distilled; liquors, malt; lumber, planed; lumber, sawed; masonry, brick and stone; mattresses and spring beds; oil, linseed; paper; sash, doors, and blinds; sewing machines and attachments; stencils and brands; and washing-machines and clothes-wringers.

From the foregoing table it appears that the average capital of all establishments is $42,682 08; that the average wages of all hands employed is $412 40 per annum; and that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is $38,959 64.

STEUBENVILLE,

JEFFERSON COUNTY, OHIO.

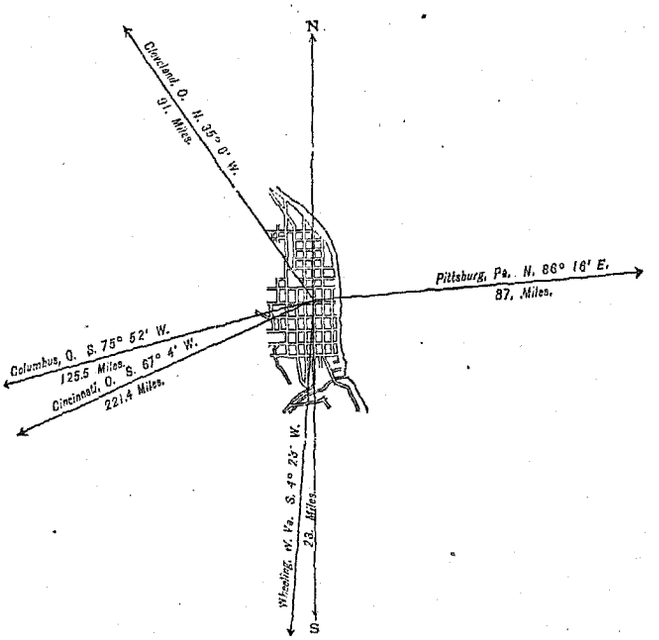
POPULATION

IN THE

AGGREGATE,

1820-1880.

	Inhab.
1790	.....
1800	.....
1810	.....
1820	2,539
1830	2,937
1840	4,247
1850	6,140
1860	6,154
1870	8,107
1880	12,093



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	5,825
Female	6,268
Native	10,150
Foreign-born	1,943
White	11,582
Colored	511

Latitude: 40° 25′ North; Longitude: 80° 41′ (west from Greenwich); **Altitude: 677 to 1,100 feet.**

FINANCIAL CONDITION:

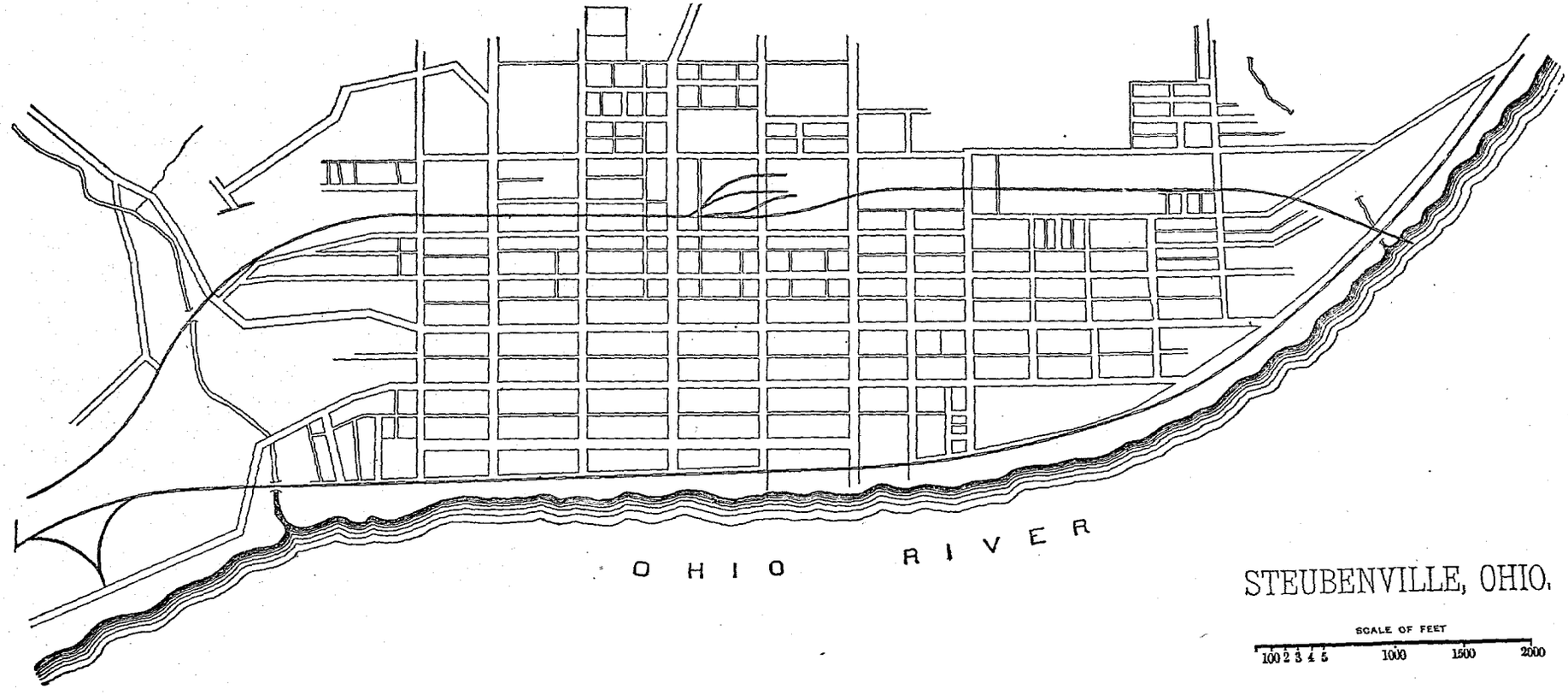
Total Valuation: $5,173,520; per capita: $428 00. Total Indebtedness: $30,190; per capita: $2 50. Tax per $100: $1 66.

HISTORICAL SKETCH.(a)

Late in 1785, or early in 1786, Captain Hamtramck built a block-house on the site of Steubenville, as a protection for the government surveyors. This was replaced in 1787 by a fort, which was called fort Steuben, in honor of Baron Steuben; but after a few months this fortification was evacuated. Its destruction by fire occurred in 1790.

In 1797 Bezaleel Wells, a native of Baltimore county, Maryland, and James Ross, of Pittsburgh, purchased sections 29, 30, 35, and 36, in fractional township 2, range 1, now Steubenville township, and on sections 29 and 30 laid out a town, which they called Steubenville. The first lot was sold February 13, 1798. As early as November, 1797, a territorial court was held in the settlement; the sittings were held in private houses until, in August, 1798, a tract of land in the center of the village was purchased and a court-house was built upon it. This building, a

a The material for the sketch, as well as nearly all the statistical information under the head of "Steubenville in 1880", was collected and furnished by Joseph B. Doyle, esq., of Steubenville.



STEUBENVILLE, OHIO.

SCALE OF FEET

100 2 3 4 5 1000 1500 2000

rude log structure of two stories—the jail in the lower story, the court-room in the upper—was used until 1809, when it was torn down to make room for a brick court-house, which stood until 1870, and then gave way to the present building. The first settlers brought with them from their Maryland and Pennsylvania homes habits of thrift. The government land-office was located there, and the town, which was incorporated February 14, 1805, was made the county-seat of a county extending from lake Erie to the Ohio river. The year after the incorporation of the town the *Western Herald*, the first newspaper, was started; and four years later the first attempt was made to obtain a public water-supply. Water was brought in pipes made of hollow logs from springs at the western end of the town, and the supply was increased in 1821 by the extension of the pipes to other springs; but the decay of the wooden mains made the supply unreliable, and a good supply was not obtained until 1835, when water was taken from the Ohio river and pumped to a reservoir three-fourths of a mile distant and 192 feet above the pumping-station. These works were rebuilt in 1864, a new reservoir was added, $80,000 was spent in improvements and extension, and the wants of the community were fully supplied.

In 1809 a stage line to Wheeling was started, and other lines to various points were soon established. Later many steamers, owned in whole or part at Steubenville, were found on the Ohio and Mississippi rivers. The building of steamboats was begun in the town about 1819, and many fine ones were constructed there.

The Steubenville and Indiana railroad was incorporated in 1848, and opened for business in 1853; a few years later the Pittsburgh and Steubenville railroad was begun, but it was not completed until 1865, while 9 years previously the Cleveland and Pittsburgh railroad reached the city. These roads, with the Pittsburgh, Wheeling, and Kentucky, now a part of the Pan-Handle route, offer easy means of transportation for the product of the city's manufactories.

Steubenville early became a manufacturing town. A tannery was started in 1798 or 1799; a saw- and grist-mill in 1802; a nail factory in 1811; a paper-mill and a steam flouring-mill in 1813; and in 1814 the pioneer woolen-mill of the region was established here. Men were brought from the East to run the machines, and merino sheep were imported from Spain to increase and improve the supply of wool. This importation laid the foundation of the present vast industry of wool-growing in eastern Ohio and western Pennsylvania. Other woolen-mills were started, and the growth of the town rapidly increased. The Pioneer mill failed in 1830, and the crises of 1837 stopped the others. One by one the woolen-mills have passed away, until only one now stands, deserted and idle. A similar fate befel the cotton industry. The first mill was started in 1824–'25, and others began soon after. They did a large business for many years, but cotton manufacturing is now abandoned.

In 1846 glass-making was introduced, and is now one of the leading manufactures, the making of tumblers being especially prominent.

In 1851 Steubenville was incorporated as a city. In the early days all coal at this point was obtained from seams lying near the top of the hills, but in 1857 the first effort was made to reach the lower coal-beds, and the success of the venture has given to Steubenville an abundant supply of excellent coal, which is used in the iron-founderies which have grown up since 1859. Free clay lies in veins under some of the coal-layers, and within a few years the manufacture of pottery has assumed importance.

The territory of the city was largely increased in 1871, and the effect is seen in the increased population in 1880. The schools of the city are excellent, the first board of education having been elected in 1838, and continual progress having since been made in the management of the schools. There are 17 churches and 27 societies, literary, social, and secret. The city has 2 daily, 4 weekly, and 1 monthly newspapers, and 3 banks, with 1 private banking-house.

STEUBENVILLE IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Steubenville:

LOCATION.

Steubenville is situated in latitude 40° 25′ north, longitude 80° 41′ west from Greenwich, on the Ohio river, 68 miles by river from Pittsburgh, and 398½ miles above Cincinnati. The highest point is 1,100 feet, the lowest 677 feet above the sea-level. The Ohio river is here about 1,000 feet wide at average stages of the water. During high water there are 40 feet over all bars below the city, but during low stages the depth is only about 12 inches. The harbor is a pool about a mile long and as wide as the river, and has an average depth at low water of 7 feet. The current flows at the rate of 8 miles an hour during high stages, and 3 miles an hour during low stages.

RAILROAD COMMUNICATIONS.

Steubenville is touched by the following-named railroads:
The Pittsburgh, Cincinnati, and Saint Louis railroad, termini Pittsburgh and Saint Louis.
The Cleveland and Pittsburgh railroad, termini Pittsburgh, Bellaire, and Cleveland.
The Pittsburgh, Wheeling, and Kentucky railroad, termini Steubenville, and Wheeling, West Virginia.

TRIBUTARY COUNTRY.

The city is the center of a great wool-growing district, the spring returns of the present year showing that within a radius of 50 miles there were 1,431,479 sheep. Large numbers of blooded cattle are raised in the vicinity. The tributary district is also rich in manufactures.

TOPOGRAPHY.

The larger portion of Steubenville is situated in an amphitheater fronting for 3 miles on the Ohio river, and extending back half a mile at the center to the hills, which shut in the city while they form at the same time part of its territory. A short distance from either end a valley of considerable size opens back into the country. There are two well-defined river-benches of the alluvial period, the lower being at an average height of 39 feet, the other of 37 feet above low-water mark, the latter following a slope of varying regularity to the part of the hills 77.98 feet higher. The front of the hills is precipitous, but not sufficiently so to prevent cultivation or building. In the northern part of the town the benches are of gravel, but elsewhere of sand and small bowlders. The underlying rocks are the sandstones and limestones of the Lower Barren Measures of the Carboniferous series. The hills rise to a height of 400 and 500 feet above the river. The natural drainage is excellent, and there are no marshes, ponds, or lakes in the vicinity. The surrounding country was once thickly wooded, but has now been almost entirely stripped of its forests. The soil is light and loamy and well adapted to the cultivation of corn and small grains.

CLIMATE.

The highest recorded summer temperature is 100°, the highest in average years rarely exceeding 98°. The lowest recorded winter temperature is —12°, while in average years about —5° marks the lowest descent of the mercury. The Ohio river has a marked effect in moderating the cold of winter, the thermometer in Steubenville never falling so low as in the country remote from the river, while in the spring vegetables are from a week to ten days in advance of those in the inland country. The hills protect the city from the wind and tend to equalize the temperature.

STREETS.

Steubenville has about 17½ miles of streets, 3,175 feet of which are paved with cobble-stones laid on a gravel foundation, and 603 feet on a foundation of furnace-cinders and gravel; 3,900 feet are paved with furnace-cinders; 603 feet with locust-wood blocks; while quite a number of streets are naturally of gravel. The cost of the cobble-stone paving with gravel foundation is about $1 25 per square yard; with cinder foundation, about $1 50; and of the wood paving, $2 85. The streets are about 35 feet wide between the curb-stones. Very little repairing has been done on the paved streets, and no account of the cost has been kept. The wooden pavement was laid in 1872, and has needed no repairs as yet. The sidewalks are almost entirely of brick, and from 9 to 15 feet in width; the gutters are of sandstone or cobble-stone, and are made large, as the surface-drainage is considerable. Trees are planted along the edges of the sidewalks inside the curbing. Repairs on the streets are made by day-labor under the direction of the city commissioners, and will cost for the present fiscal year about $10,000.

There are no horse-railroads and no omnibus lines.

WATER-WORKS.

The water-works are owned by the city, and have grown from a small beginning in 1810 to the present works, capable of meeting a daily consumption of 2,480,000 gallons. The total cost can not be given. The daily average consumption is 1,280,000 gallons. There are about 15 miles of pipes and mains, varying in diameter from 20 inches to 2 inches.

GAS.

The city is supplied with gas by a private corporation. The daily average production is 24,000 cubic feet, for which the charge is $1 90 per 1,000 feet. The city pays $20 a year for each of the 159 gas street-lamps in use.

PUBLIC BUILDINGS.

The buildings owned by the city and used for municipal purposes are valued at $10,000, and include three houses of the fire department, in one of which are the offices of the mayor and the city lockup. There is no city hall.

PUBLIC PARKS AND PLEASURE-GROUNDS.

A park of about 15 acres is being formed about the public landing by the accumulation of *débris*, and another of similar size is being formed at the north end of the city by private persons. These parks have caused no expense, except for the planting of a few trees.

PLACES OF AMUSEMENT.

The city has no theaters. Three halls, seating, respectively, 800, 600, and 400, are used for entertainments of all kinds. Each entertainment pays a license fee to the city. There are no concert- and beer-gardens.

DRAINAGE.

The city has no system of sewers. Storm-water and most of the liquid household wastes pass off through the street-gutters and find their way to the Ohio river.

CEMETERIES.

There are 2 cemeteries connected with the city, as follows:

Union Cemetery, area 125 acres, situated in the southwestern part of the city, was opened in 1855, and contains 4,576 bodies, 383 of which have been moved from the church-yards and burial-grounds that have been abandoned as population pressed around them.

Roman Catholic Cemetery, area between 2 and 3 acres, is situated in the western part of the city, and was opened in 1853. About 500 interments have been made within its limits.

Union cemetery is in the hands of a private corporation; the other is managed by the Catholic church. No interments are allowed to be made in any place other than these two cemeteries. Graves are made 5 feet deep. There were once several other burial-grounds and church-yards, but all of them are now closed.

MARKETS.

Steubenville has no public or corporation markets.

SANITARY AUTHORITY.

The city has no board of health, though under the laws of the state the city council has power to create one and give it very extended powers. The ordinances of the city prohibit all things likely to be a cause of injury to the public health, and those who break the ordinances are tried before the mayor and dealt with like other offenders. The pollution of the streams and harbors by casting any dead or decaying animal or vegetable substances into them in such a way that they will not at once be carried off is forbidden by the ordinances.

INFECTIOUS DISEASES.

Small-pox and scarlet-fever patients are not quarantined or isolated, the city marshal simply marking the house in which a case of either disease exists. There is no pest-house. Vaccination is not compulsory, nor is it done at the public expense. There is no system of registration of births, diseases, and deaths.

MUNICIPAL CLEANSING.

Street cleaning.—The streets are cleaned by the city's force, and the expense is charged to the property-holders. The work is done entirely by hand, and with tolerable efficiency. There is a general cleaning up of the streets in spring, but during the rest of the year they are cleaned only when it is necessary. The sweepings are deposited on the river-bank. The cost of the work is about $500.

Removal of garbage and ashes.—Garbage and ashes are removed by the householders, in whatever way they see fit. There are no regulations governing the conservancy of garbage while awaiting removal, provided it does not become a nuisance; it may be kept in the same vessel with ashes. Few nuisances arise.

Dead animals.—The city makes a contract with a scavenger to remove the carcasses of dead animals at a schedule rate fixed by the city. The price is collected by the scavenger, if possible, from the owner of the animal; but if he is unable to obtain it he is paid by the city. The service cost $291 95 to the city during the past year, when 2 horses, 1 cow, 957 cats, 1,754 rats, 848 chickens, 185 hogs, and 247 dogs were removed.

Liquid household wastes.—Chamber slops and kitchen and laundry wastes are generally disposed of alike, by running them into the street-gutters. None goes into sewers, but about one-tenth passes into cesspools, which are porous, unprovided with overflows, and in some cases receive the wastes from water-closets. No regulations govern their construction or cleansing. The street-gutters are flushed at irregular intervals.

Human excreta.—About 5 per cent. of the houses are provided with water-closets; the rest depend upon privy-vaults, none of which are water-tight. The water closets all deliver into cesspools. No privy is allowed to be built within 2 feet of the line of any alley or any adjoining premises, or within 20 feet of any street. The vaults must not be allowed to become a nuisance. The dry-earth system is not used. Night-soil is taken beyond the city limits and dumped into the river or elsewhere.

Manufacturing wastes.—These usually drain to the river, like other liquid wastes, and often cause much annoyance.

POLICE.

The police, with the exception of the marshal, are appointed by the mayor and confirmed by the city council; the marshal is elected by the people. The force is subject to the general orders and supervision of the mayor, but the general charge of the department is intrusted to the marshal, who is *ex officio* superintendent of police, and receives a salary of $750. There are 7 policemen, each of whom is paid $1 75 a day. Their uniform is of blue cloth, with brass buttons, and a metal star; each man provides his own, the average cost being $17. The men are armed with revolvers and heavy maces, and are on duty from 6 p. m. to 6 a. m., but have no regular beats. During the past year they made 850 arrests, chiefly for drunkenness and disorderly conduct. Most of those arrested were released on payment of fines. There is no record of the amount of property lost or stolen and reported to the police, or of the amount recovered and returned. The force co-operates with the fire department. The mayor, with the consent of the council, may appoint 5 reserve police in each ward, who may be called on for service when necessary. These, while on duty, receive the same pay and have the same powers as regular members of the force. The expense of the department in 1880 was $6,972 50.

FIRE DEPARTMENT.

The fire department is organized on the volunteer system, although small salaries are paid to the chief fire director and the engineers of the steamers, and the men receive $10 a year and a few privileges. The force consists of 1 chief and 2 assistant fire directors; 2 engine and hose companies and 1 hook-and-ladder company, each of 22 men. The apparatus includes 2 steam fire-engines, 2 hose-carriages, 3 hose-trucks, 1 hook-and-ladder truck with equipments, and 3,250 feet of hose. Alarms are given by the bells on the engine-houses, and by a fire-alarm attached to the court-house bell. The force is efficient, and losses by fire are consequently small.

TOLEDO,

LUCAS COUNTY, OHIO.

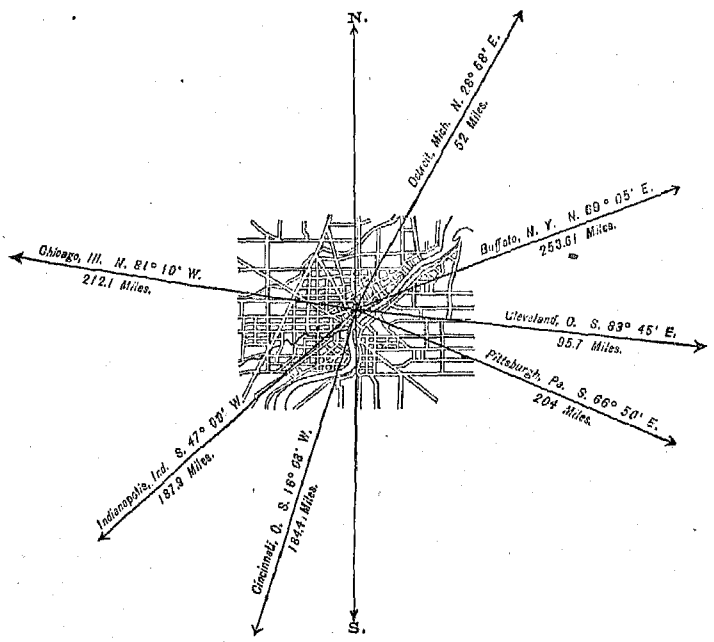
POPULATION

IN THE

AGGREGATE,

1840-1880.

	Inhab.
1790	.....
1800	.....
1810	.....
1820	.....
1830	.....
1840	1,224
1850	3,829
1860	13,768
1870	31,584
1880	50,137



POPULATION

BY

SEX, NATIVITY, AND RACE,

AT

CENSUS OF 1880.

Male	25,034
Female	25,103
Native	35,788
Foreign-born	14,349
White	49,205
Colored	*931

* Including 3 Chinese.

Latitude: 41° 40' North; Longitude: 83° 33' (west from Greenwich); **Altitude: 604 feet.**

FINANCIAL CONDITION:

Total Valuation: $18,687,955; per capita: $373 00. Total Indebtedness: $3,224,660; per capita: $64 32. Tax per $100: $4 45.

HISTORICAL SKETCH.(a)

The Maumee valley, 8 miles up the Maumee river, at fort Meigs (Perrysburg), and directly on the opposite bank at Maumee City, now South Toledo, was settled from the close of the war of 1812; but what is now Toledo was settled by not more than 4 white families prior to January, 1832, and these a mile or more apart. The settlement of Port Lawrence, laid out on the northwest corner of the 12 miles square reservation, at the foot of the rapids of the Miami of lake Erie, and on the westerly bank of the Maumee, and the settlement of Vistula, adjoining and below Port Lawrence, became the nucleus about which the present city was formed. During the winter of 1831–'32 arrangements had been perfected to erect warehouses and a few buildings upon the breaking up of the ice, on the

a Prepared by H. A Chamberlin, esq., of Toledo.

westerly bank of the river, by the proprietors of the land—one at the mouth of Swan creek (Port Lawrence), the other a mile below (Vistula). Quite a number of buildings, perhaps half a dozen rude structures at each point, were erected during the year 1832.

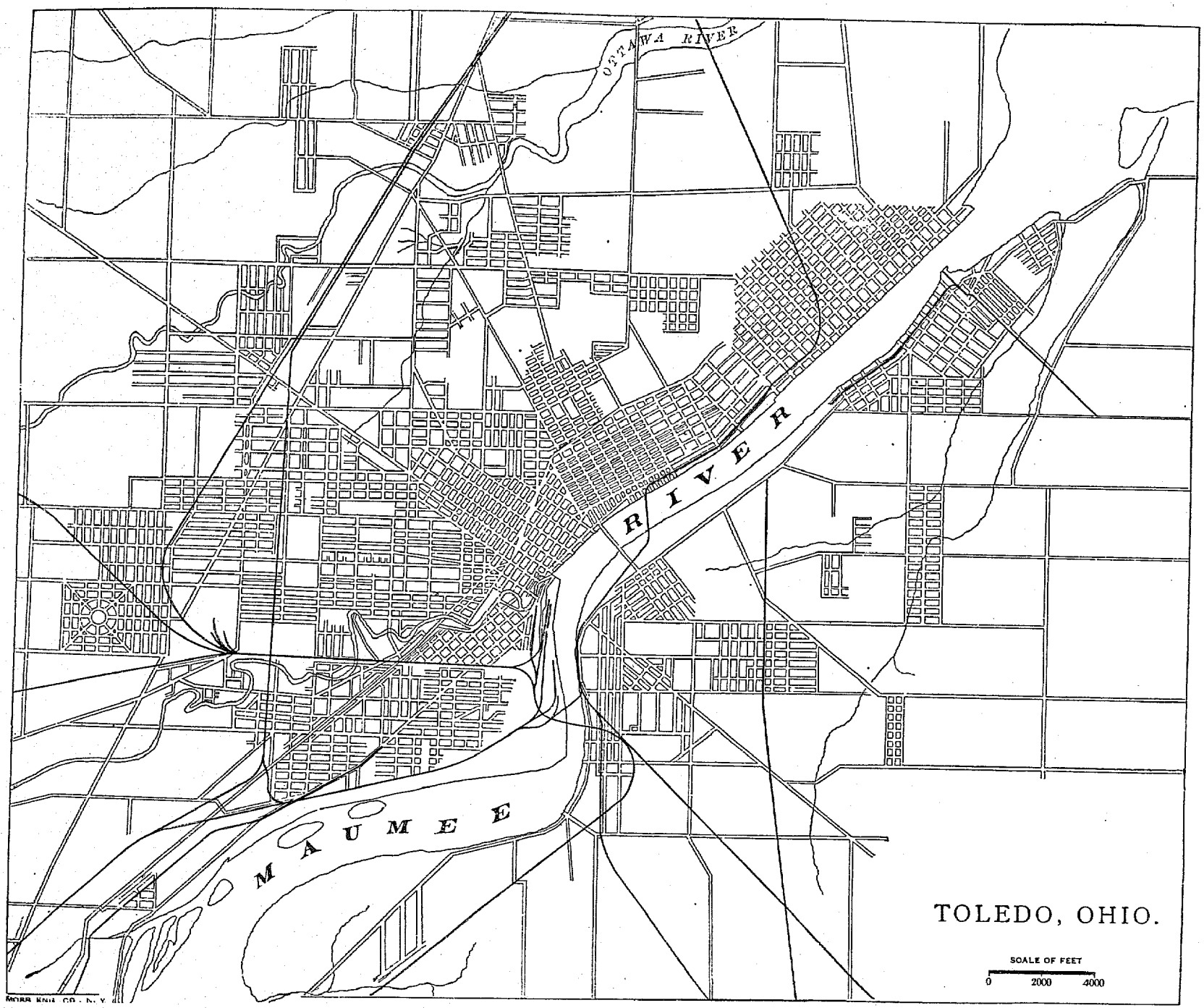
During the summer of 1833 it became apparent to the proprietors of the two settlements, as well as to the new settlers and tradesmen, that common cause should be made of the interests of the two points, and upon meeting to discuss their joint interests, as neither party was willing to yield the name of one settlement to the other party, a compromise was effected by giving the two places the name of "Toledo", which, it was argued at the time, was a name not given to any town in the new world, and a name made historic in Spain. From that time to the present, Port Lawrence and Vistula have had no existence, save as describing two important divisions of land planted under these names and in the very heart of the Toledo of to-day.

The area of the present city of Toledo, exclusive of the area of the navigable waters of the corporation, is a trifle over 20 square miles. Toledo was a mere settlement, a part of a township in its government, until 1837, in the spring of which year, after being incorporated, the first mayor was elected. Until 1835 all mail matter for the new settlement on the river was received at Tremoinsville, on the Monroe and Maumee pike, which "ville", since the enlargement of the corporate limits of Toledo in 1874, is a part of the city. From the spring of 1835 until June, 1836, every thing, so far as governmental regulations were concerned, was unsettled. The questions growing out of the disputed boundary line between Ohio and the then territory of Michigan, known as "the Toledo war", was indeed unfortunate for a growing community. The cause of the trouble was the disagreement as to the northern boundary of Ohio. Michigan claimed to the "Fulton line" on the south, being a line due east from the southern extremity of lake Michigan intersecting lake Erie; and Ohio claimed to the "Harris line" on the north, which was a line from the southern extremity of lake Michigan to the most northerly cape of the Maumee bay. These two respective lines left in dispute all the territory now in the city of Toledo, being a strip of land at the eastern end (Toledo), 8 miles in width, and at the Indiana line 5 miles in width, including all the Maumee bay and Toledo harbors, and the outlet of the contemplated Miami and Erie canal.

In 1835, by direction of the general assembly of Ohio, a commission was appointed to re-mark the northern boundary (Harris line) of the state. Governor Mason, of Michigan, directed General Brown, in charge of the Michigan troops, to intercept the commission and prevent the marking of this line. Governor Lucas, of Ohio, upon learning of the decision of the Michigan authorities, at once directed a portion of the Ohio militia, some 600 strong, to protect the commission in the discharge of the duty imposed upon it. Finally, with varying changes of fortune, and through the aid of peace commissioners on the part of Governor Lucas, of Ohio, and President Jackson on the part of the United States, in behalf of the territory of Michigan, a *statu quo* was effected until the close of the session of Congress in 1836. In June, 1836, Michigan was admitted as a state of the union, with her southern boundary the northern, or "Harris", line. After this time all jurisdictional questions which had been unsettled for some eighteen months were readily adjusted, the functions of local government assumed a regular order, and taxes, which had been uncollected on account of the conflict of authority, were regularly assessed and collected. Aside from a few wounded, when making or resisting arrests under Michigan authority, and the animosities engendered by confining some of the settlers in the jails of Lenawee and Monroe counties, Michigan, for non-compliance with the Michigan laws in the disputed territory, no material loss arose through the unsettled state of society and government and the consequent cloud upon business in this new settlement.

Maumee City (now South Toledo), 8 miles up the river, was the county-seat of Lucas county until the year 1852, when Toledo was made the county-seat. In 1872 the city purchased the property and franchise of the Cherry Street Bridge Company, which controlled the toll-bridge; since the purchase, the bridge, over 2,000 feet in length, and connecting the easterly and westerly parts of the city, divided by the Maumee, has been rebuilt and maintained as a free bridge. The travel over this is very large, it being no uncommon occurrence for 2,000 teams to pass in a single day, with a constant flow of pedestrians in addition. In 1874 the limits of the city were materially enlarged. The chief suburb thus brought within Toledo was Manhattan, a settlement near the mouth of the Maumee, and at the northern terminus of the Miami and Erie canal. In 1835 and 1836 Manhattan had a very rapid growth; warehouses, shops, and docks were built, or in process of construction, on a large scale; but after the panic of 1837 the business of the place was transferred to Toledo. Quite a number of dwellings erected before 1837 are still occupied, interspersed among the more modern buildings; the early warehouses and docks are known only by their foundations.

The settlement of Toledo, where speculation had been rife for some four years, and paper money, under the old state-bank system, had been abundant, was left almost lifeless after the crisis of 1837, and did not fully recuperate from this blight until the completion of the Miami and Erie canal, extending from Toledo to the Ohio river at Cincinnati, in 1843. The depression after the crisis of 1873–'74 did not really take effect until the latter half of 1875, from which time until the summer of 1880 the hitherto rapid development and increase in population and wealth of the city were practically at a standstill. Now the former enterprise and improvement of the city has asserted itself, and vast undertakings, by railroads and other corporations and by individuals, are going forward on all sides. Toledo has never been visited by any devastating conflagrations. The original settlers, mainly from


OTTAWA RIVER
MAUMEE
RIVER
TOLEDO, OHIO.
SCALE OF FEET
0
2000
4000
MORR ENG. CO., N.Y.

New York and the New England states, were largely supplemented by Irish in 1840, drawn hither by the construction of the Miami and Erie canal. Since that time many Germans have come in, and to-day this element ranks next to the native-born.

TOLEDO IN 1880.

The following statistical accounts, indicating the present condition of Toledo, were furnished by the mayor, Hon. Jacob Romeis:

LOCATION.

Toledo lies in latitude 41° 40′ north, longitude 83° 33′ west from Greenwich, on both sides of the Maumee river, 1 mile from Maumee bay, and 5 miles from lake Erie, just south of the Michigan state line. The Ottawa river, parallel to the Maumee and to the north of it, also empties into Maumee bay, and the greater part of the city is on the peninsula formed by the two rivers. The area of the city includes 21.5 square miles, 15.3 square miles being on the northwest side and 6.2 square miles on the southeast side of the Maumee river, not less than nine-tenths of the population, however, living on the northerly side. The altitude of the city, as given in the reports of the Smithsonian Institution, is 604 feet above mean sea-level, or about 29 feet above the surface of lake Erie.

HARBOR AND WATER-COURSES.

The harbor, as known to sailors and shippers, includes the extreme southwestern part of lake Erie, the Maumee bay, and the river to the central part of the city. The bay has an area of about 15 square miles. The average width of the river, within the city limits, is more than 1,800 feet, with a good spacious channel of not less than 20 feet depth. The harbor is easily made by sail- and steam-craft upon the western part of lake Erie, and no winds can get sweep enough to injure shipping within it. The anchoring-ground is good, neither the bottom nor banks being rocky. The shallow water, which originally impeded navigation in the bay, near the lake, has been deepened at the expense of the United States government, so that the vessels of all the chain of great lakes have ready access to the warehouses and elevators. Water communication is open with the Atlantic sea-board either via the Welland canal, lake Ontario, and the river Saint Lawrence, or by the Erie canal and Hudson river. The Maumee river is navigable to Fort Wayne, Indiana. The city has also water communication, via the Miami and Erie canal, with Cincinnati.

RAILROAD COMMUNICATIONS.

Toledo is touched by 16 different railroad lines; 7 of these are included in the management of the New York Central and Hudson River Railroad system, and the other 9 are as follows:

The Wabash, Saint Louis, and Pacific railroad, to Saint Louis.
The Cincinnati, Hamilton, and Dayton railroad, to Cincinnati.
The Flint and Pere Marquette railroad, to Ludington, on the east shore of lake Michigan.
The Canada Southern railroad, to Buffalo, New York.
The Ohio Central railroad, to Pomeroy, on the Ohio river.
The Pennsylvania railroad, to Pittsburgh, via Mansfield.
The Columbus and Toledo railroad, to the former place.
The Toledo and Ann Arbor railroad, to Ann Arbor, Michigan.
The Toledo, Delphos, and Burlington railroad, to the Mississippi river. This last is a narrow-gauge road.

In addition to the above the Wheeling and Lake Erie railroad, from Toledo to Wheeling, with an iron bridge 2,000 feet long over the Maumee river, is now in process of construction.

TRIBUTARY COUNTRY.

The country immediately surrounding Toledo is an agricultural one. There are also several outlying towns and many market-gardens near the city. By the aid of the Maumee river, the canal, and the many railroads, Toledo has close commercial relations not only with the thickly settled country that surrounds her on three sides, but with the country west to the banks of the Mississippi.

TOPOGRAPHY.

The natural soil of the city on the eastern side of the river, and a strip on the opposite bank, is clay underlaid with blue-clay hard pan; westerly of this line, which extends back from the river an average distance of 1,500 feet, the soil is a sandy loam. To the south and east of the river the soil is a rich and productive black muck, underlaid with clay. It was originally covered with forests of oak, cottonwood, and varieties of timber adapted to such soil, but is now largely cleared and tilled, producing wheat, corn, hay, vegetables, etc. Northwesterly from the river is a belt of sandy loam, varying in width from 4 to 8 miles, and extending to the middle of Monroe county, Michigan,

well adapted for gardening and small vegetables. Beyond this belt the surface is slightly undulating, with the soil a gravelly clay, very productive, and well adapted to grazing or cereal growth. The underlying rock is limestone and shale. The surrounding country for a radius of 30 miles partakes of the same characteristics, and there are no elevations exceeding 80 feet above lake Erie. The Maumee river drains a comparatively level section of country, originally very heavily timbered, nearly all of which is susceptible of proper drainage. There is but very little actual marsh, and there are no ponds or lakes within a radius of 5 miles.

CLIMATE.

Highest recorded summer temperature, 100°; mean summer temperature in average years, 70.20°. Lowest recorded winter temperature, —16°; mean winter temperature in average years, 28.88°. The influence of the waters of lake Erie tend greatly to modify the extremes of heat and cold. The prevailing wind is southwesterly, and generally raises the temperature.

STREETS.

The total length of the streets of Toledo is 271 miles, paved as follows: 3.62 miles with cobble-stones; 7.51 miles with stone blocks, Medina sandstone, and limestone; 3.86 miles with broken stone; and 30.64 miles with wood, cedar blocks, Nicholson, and plank. The cost per square yard of each, as nearly as it may be estimated, is, for cobble-stones, $1 10; stone blocks, Medina, $2; limestone, $1 50; broken stone, $1 20; wood (cedar), 75 cents to $1 50; Nicholson, $2 25; and plank, 67 cents. The relative facility with which each is kept clean is, first, plank, then cedar blocks, stone blocks, cobble-stones, and broken stone, in the order named. The stone blocks of Medina sandstone are reported to give the best satisfaction. The sidewalks are mostly plank, except on the principal streets, where stone flagging is used. An ordinance, however, now requires sidewalks, on all graded streets, to be either stone, brick, or asphalt. The curb and pavement form the gutters, and the unpaved streets have no gutters, other than those made by the grade of the street. Though there is no tree-planting by public authority, property-owners are permitted to plant trees on the street lines. The work of repairs of streets is done by the day, and is so connected with other work that the separate cost of each per annum can not be ascertained. The work on construction of streets is done wholly by contract, as the municipal code requires that all improvements shall be let to the lowest responsible bidder. There are 15 miles of horse-railroads in the city, with 44 cars and 139 horses, and giving employment to 62 men. The total number of passengers carried during the year is 1,500,000, and the rate of fare, for all distances, is 5 cents. There are no regular omnibus lines, but several omnibuses and hacks run to and from the railroad stations and also to all parts of the city. About 25,000 passengers are annually carried by these vehicles, the "bus" fare being 25 cents, and the hack fare 50 cents and upward, according to the distance.

WATER-WORKS.

The water-works are owned by the city, and cost, in round numbers, $1,000,000. The system is pumping into stand-pipe, the daily capacity of the pumps being from 12,000,000 to 14,000,000 gallons, and the pressure in the mains varies from 60 to 108 pounds to the square inch. The least amount pumped per diem is 2,670,720 gallons, and the greatest, 3,890,560 gallons. The average cost of raising 1,000,000 gallons 1 foot high is 5.61 cents. The yearly cost of maintenance, aside from the cost of pumping, is $13,000, and the annual income from water rents is $24,000. The city pays nothing for the water used, and the secretary estimates the income from this source, provided the city paid fair rates, at over $40,000 a year. A few water-meters are used, but they do not appear to give satisfaction.

GAS.

The gas-works are owned by the city. The daily average production is 166,700 cubic feet. The charge per 1,000 feet is $2 25. The city pays $37 36 per annum each for street-lamps, 1,026 in number.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, buildings valued at $175,000, viz: Council room, police station, 7 engine-houses, city workhouse, and house of refuge and correction. There is no city hall, but the city and county contemplate the erection of a building, to be used in common, for court-house and city-hall purposes.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are 3 parks in Toledo, with a total area of 41 acres, as follows: The largest one has an area of 20 acres, and is situated on the banks of the Maumee river; *Court Park*, area 6 acres, is situated in the heart of the city; and *City Park*, area 15 acres, is situated on a sandy knoll 1 mile from the center of the city. The total cost of the parks was $125,000. Aside from beautifying the City park, little money has been expended, save in sodding and tree-planting, beyond first cost. The yearly cost of maintenance for all the parks has not exceeded $1,000 per

annum for the last four years. The estimated number of visitors annually to the large parks is, on foot, 90,000; in carriages, 10,000. The parks are controlled by a board of park commissioners, appointed by the mayor and confirmed by the council.

PLACES OF AMUSEMENT.

There are 4 theaters in the city: Wheeler's opera-house, seating capacity, 2,200; Adelphi theater, seating capacity, 1,200; Theater Comique, seating capacity, 600; and Academy of Music, seating 500. These theaters pay an annual license of $50 each to the city. White's hall, Odeon hall, Walbridge hall, etc., seating capacity from 800 to 1,500 each, are used for concerts, lectures, etc. Schützen park and beer-garden, built and arranged in 1878, is on the bank of and overlooking the Maumee river; it contains 15 acres, has a large 2-story hall, with a capacity for 2,000 persons, and the total cost of the improvements was $25,000.

DRAINAGE.

In preparing the general plan for the sewerage of Toledo, it was necessary to place the main sewers at such a depth that all the water-courses and sink-holes could be drained. This was accomplished without giving any rates of fall less than 1 in 400. All sewerage works are now made in accordance with the plan regulating location, depth, and grade. The disposal of sewage is to the Maumee river. Mouths of sewers are being changed so as to deliver below the surface of the water. Within the past few years some sewers have required both flushing and cleansing by hand. This is done by the street commissioner, and there are no correct data of the amount or cost of such work done. Storm-water is admitted through brick catch-basins, 4 feet in diameter and 5½ feet deep below the water-surface, trapped with a 6-inch seal, and connected with the sewer by a 12-inch pipe; covers of basins are circular, 4 feet 8 inches in diameter, and made of three thicknesses of 3-inch plank bolted together; a hole in the center, 2 feet 6 inches square, is covered with a movable lid, also of wood. Provision for ventilation is made by erecting a stand-pipe of galvanized iron, 10 inches in diameter, 40 feet high above the surface of the ground, supported on a stick of timber set in the ground for the purpose and connected with the sewer by a pipe 12 inches in diameter. Such a ventilator is placed at the head of each sewer, and the mouth of the sewer is trapped with a stench-trap. The cost of sewers was formerly paid one-half by the city and one-half by assessment on the abutting property, but in recent years the whole cost has been assessed upon the property. The basis of assessments is according to supposed benefits, the property most remote being assessed at the highest rate. Sewers 2 feet in diameter, built in 1880, cost from $1 46 to $1 52 per foot; manholes, $10; catch-basins, $30 each.

CEMETERIES.

There are 5 cemeteries connected with Toledo, all situated on the westerly boundary of the city, and not surrounded with dwellings. They are as follows:

Forest Cemetery, area 25 acres; *Woodlawn Cemetery*, area 160 acres; and *Collingwood Cemetery*, area 20 acres, are Protestant; and *German Cemetery*, area 40 acres, and *Saint Patrick's Cemetery*, area 22 acres, are Catholic.

There are no church-yards or private burial-grounds where interments are no longer permitted.

All the above-named cemeteries are in use, and all, save Woodlawn, have been for more than twenty years. The average death-rate for about ten years past has been about 16 in 1,000, taking the average population for the last decade as 42,000. The board of health has unlimited power over interments. Burial permits are granted by the city clerk, on the certificate of the attending physician. In case of death from any contagious disease the funeral must be private, and direct from the house or hospital. Woodlawn cemetery is the only one owned by a private corporation, and is governed by practically the same regulations.

MARKETS.

There are no public market buildings in Toledo. In two places, originally plotted for market-houses, the city has designated certain hours when market-stuff may be sold, under certain regulations, and during these hours no huckstering is allowed upon the streets.

SANITARY AUTHORITY—BOARD OF HEALTH.

The board of police commissioners, composed of 4 members, appointed first by the governor and afterward elected by the people, with the mayor a member *ex officio*, is vested with the full power of a board of health. At present there is no physician on the board. The annual expenses of the board in ordinary times are about $4,000, for salaries, printing, advertising, etc. During an epidemic there is no limit to the amount of expenditures. In absence of an epidemic the board has full power over the general sanitary condition of the city, and during epidemics has authority to take such steps as may be necessary to check and control the spread of disease. The chief executive officer of the board is the health officer, salary $900 per annum. He is a physician, has general supervision of the affairs of the board, carries out its orders, and reports to it at each meeting. Two policemen

are detailed from the police force to carry out the orders of the health officer. The board meets bi-monthly, and transacts its business as a deliberative body. All orders entered upon the journal have all the force and effect of city ordinances, so far as the public health and the prevention of diseases are concerned.

Nuisances are attended to as reported, and general inspections are made to some extent. The latter are made not so fully as they should be, owing to the small number of inspectors. When a nuisance is found or reported it is inspected by either the sanitary policemen or the health officer, and notice is served to abate. If the order is not complied with the board either proceeds by criminal prosecution or has the work done by contract at the expense of the owner of the property on which the nuisance exists. During the past year 4,942 nuisances were found, and of these 3,639 were abated. All cases of defective house-drainage, privy-vaults, cesspools, sources of drinking-water, etc., if found to be dangerous to health, are declared nuisances and ordered abated, either by the health officer or, in some cases, by direct notice from the board. Defective sewerage, street-cleaning, etc., is reported to the common council, with a request to have the same corrected. The board orders the removal and burial or destruction of garbage, and, during the summer months, employs a collector. The board exercises full control over the burial of the dead. City ordinances prohibit the pollution of streams and regulate the removal of excrement. The board reports annually to the common council, and its reports are published with the regular city documents.

INFECTIOUS DISEASES.

Small-pox patients are removed to the pest-house, which is situated in a remote suburb. Scarlet-fever cases are quarantined at home, and public notice of the existence of the case, with the locality, is given. In case of the breaking out of a contagious disease in either public or private schools, the board has power to close the schools. Vaccination is compulsory, when ordered by the board, and, in cases of persons who are unable to pay, is done at the public expense. Diseases are not registered. The registration of births is imperfect, while the record of deaths is complete or nearly so.

MUNICIPAL CLEANSING.

Street-cleaning.—All general accumulations of dirt and filth are removed by the city at the public expense. The work is done by the city's own force and by hand. All paved streets are cleaned at least twice each month, and all the others from twice to four times each season. The work gives satisfaction. The annual cost of the work to the city is $35,000, and to private persons perhaps $10,000. The sweepings are deposited on lands removed from the settled parts of the city. One of the merits of the system is stated to be that many of the street hands, if not employed by the city, would have to be wholly supported by the infirmary.

Removal of garbage and ashes.—Garbage and ashes are removed both by the city and by householders under contract. The garbage must be kept wholly covered, removed every twenty-four hours, and the surroundings disinfected. Garbage and ashes are not allowed to be kept in the same vessel. The former is buried in arable land, while the latter is generally spread on land. The cost of the service is about $6,000, but how much is paid by the city and how much by the householders is not stated. The board of health, for the past few years, by prompt attention, has well managed this department, and the excellent health of the city proves that no ill effects are noticeable.

Dead animals.—The carcasses of all animals are removed by contract, at so much per head, according to size, and disposed of to glue- and bone-factories beyond the city limits. The annual cost of this service is $3,000, and the system is reported as satisfactory.

Liquid household wastes.—All the liquid household wastes in the city go into the public sewers; none is allowed to run into the street-gutters, and there are no cesspools or dry wells. The sewers are frequently flushed or flooded to their full capacity. It has been claimed in times past that water has been contaminated from defective sewers and from vaults; now, however, aside from the water-works, drinking-water is obtained from artesian wells.

Human excreta.—All the houses in the thickly settled districts have water-closets, all of which deliver into the sewers, and where privy-vaults are used they must be connected with the sewers by "goose-necks". The privy-vaults are required to be water-tight and to be cleaned by the odorless-excavator process under orders of the board of health. The night-soil is buried in arable land beyond the corporate limits, and not within 5 miles of the gathering-ground of the public water-supply.

Manufacturing wastes, when not suitable for the filling of wharves and the like, are hauled to the arable lands outside the city.

POLICE.

The police force of Toledo is appointed and governed by the board of police commissioners, composed of 4 members, with the mayor also a member *ex officio*. The chief executive officer is the captain and acting superintendent, salary $1,500 per annum, who has the active charge of the entire force. The remainder of the force consists of 1 lieutenant, salary $900 a year; 4 sergeants at $720 a year each; 3 detectives at $720 a year each; and 45 patrolmen at $600 a year each. The uniform is of dark-blue cloth, with white-metal buttons. Each man provides his own uniform, at a cost of $60 per annum. The patrolmen are equipped with batons and revolvers. They are on duty ten hours in each twenty-four, and patrol 185 miles of streets.

During the past year 3,403 arrests were made, the principal causes being for assault and battery, disturbance, drunkenness, larceny, and suspicious appearance. The cases were disposed of by fines and costs, sent to jail or work-house, bound over to higher court, sentence suspended, etc. Of the total number of those arrested 2,838 were males and 565 were females; 2,115 were natives of the United States; 3,026 could read and write; 115 could read only; and 262 could neither read nor write. The amount of property lost or stolen during the year and reported to the police was $4,835, all of which was recovered and nearly all returned to owners. During the same time there were 2,807 station-house lodgers, 2,724 males and 80 females, as against 4,785 in 1879. Meals, to a certain extent, are furnished the station-house lodgers, but no record is kept of the cost. The members of the force assist at fires, and report every thing of an unhealthy nature to the health officer, removing and abating the latter when practicable. During the past year there were 15 complaints made against policemen, all of which were examined by the board of police commissioners with the following results: Dismissed from the force, 6; suspended, 2; and complaint not sustained, 7. Special policemen are appointed by the board, at the request of citizens, to guard private property, and they are accountable to the board for their conduct. The yearly cost of the police, 1880, is $26,791 93.

FIRE DEPARTMENT.

The annual report of the chief engineer for the year ending December 31, 1880, shows the following regarding the fire department: The force consists of 1 chief and 1 assistant engineer, 1 superintendent of telegraph, 1 batteryman, 23 full-pay and 27 half-pay men—a total of 54. The apparatus consists of 3 steam fire engines, 7 hose-carts, and 1 hook-and-ladder truck in active service, and 3 engines and 2 hose-carts in reserve. There are 5,500 feet of serviceable hose, which, with 2,000 feet ordered, will make 7,500 feet available for the coming year. During the year the department answered 144 alarms, 5 of which were false. Two persons were killed and 5 injured at the fires, and 3 persons had their lives saved by the firemen. The cost of the department during the year was $26,745 24. The fire-alarm telegraph has 95 miles of wire and 47 street signal-boxes.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Toledo for 1880, being taken from tables prepared for the Tenth Census by John W. Hiett, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	Average number of hands employed.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	440	$5,534,285	5,028	1,020	690	$2,260,456	$6,355,399	$10,000,074
Blacksmithing (see also Wheelwrighting)	30	33,565	65	.....	.....	30,875	24,205	69,045
Boots and shoes, including custom work and repairing	26	44,750	103	20	1	57,203	94,672	181,488
Bread and other bakery products	19	100,300	96	19	14	43,980	182,274	277,960
Brick and tile	3	39,000	95	.....	17	24,000	12,950	47,000
Brooms and brushes	3	26,100	34	70	102	14,050	14,740	36,000
Carpentering	32	90,800	213	10	10	90,005	227,520	356,770
Clothing, men's	16	205,200	156	210	1	99,200	248,600	409,580
Clothing, women's	3	51,000	19	240	40	49,150	143,000	225,000
Coffee and spices, roasted and ground	3	60,000	33	9	.....	17,475	201,000	240,000
Cooperage	8	72,700	93	.....	49	42,045	65,695	139,731
Drugs and chemicals	4	43,000	26	.....	6	7,550	71,925	101,060
Flouring- and grist-mill products	6	129,500	50	.....	.....	23,000	562,500	619,720
Foundery and machine-shop products	13	267,000	257	.....	15	104,667	227,036	447,750
Furniture (see also Upholstering)	9	158,020	141	6	.....	45,490	77,450	152,100
Hats and caps, not including wool hats	3	17,000	7	117	.....	14,020	11,006	33,740
Liquors, malt	4	450,000	245	.....	.....	107,351	463,200	827,164
Looking-glass and picture frames	6	104,000	88	.....	22	34,419	82,143	138,189
Lumber, planed (see also Sash, doors, and blinds)	3	18,500	20	.....	.....	7,205	16,550	32,500
Lumber, sawed	5	428,000	229	.....	20	83,000	457,000	622,150
Marble and stone work	9	52,750	67	.....	.....	26,920	38,330	86,500
Masonry, brick, and stone	9	26,800	60	.....	.....	20,500	26,500	55,160
Mineral and soda waters	4	30,000	34	.....	3	8,334	15,010	31,800
Painting and paperhanging	17	17,200	80	.....	2	31,635	27,470	72,375
Photographing	8	14,100	24	7	1	11,373	5,780	29,810
Plumbing and gasfitting	5	24,800	37	.....	1	16,014	40,350	60,325

Mechanical and manufacturing industries.	No. of establishments.	Capital.	Average number of hands employed.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
Printing and publishing	16	$353,700	241	39	50	$141,322	$180,109	$401,616
Roofing and roofing materials	4	9,000	19	.....	.....	7,725	9,300	20,000
Saddlery and harness	11	25,250	51	.....	.....	23,055	42,375	77,275
Sash, doors, and blinds (see also Lumber, planed)	7	336,300	439	.....	100	178,549	344,000	621,510
Shipbuilding	6	53,050	79	.....	.....	43,850	46,450	100,300
Slaughtering and meat-packing, not including retail butchering	3	86,000	46	.....	.....	17,200	278,393	333,000
Tinware, copperware, and sheet-iron ware	20	58,400	75	6	38	40,255	95,780	171,270
Tobacco, chewing, smoking, and snuff (see also Tobacco, cigars and cigarettes).	3	240,000	51	114	80	118,042	384,383	751,000
Tobacco, cigars and cigarettes (see also Tobacco, chewing, smoking, and snuff).	22	41,950	128	24	24	59,417	61,105	106,223
Upholstering (see also Furniture)	4	8,200	17	2	4	7,450	28,400	41,141
Watch and clock repairing	8	6,200	18	.....	.....	8,975	5,050	20,700
Wheelwrighting (see also Blacksmithing)	7	14,000	26	.....	1	10,300	7,050	22,050
Wirework	3	7,000	23	1	1	8,200	10,000	22,200
All other industries (*a*)	78	1,780,250	1,507	126	82	583,805	1,524,598	2,510,251

a Embracing agricultural implements; awnings and tents; bookbinding and blank-book making; boxes, cigar; boxes, fancy and paper; boxes, wooden packing; brass castings; bridges; carpets, rag; carpets, wood; carriage and wagon materials; carriages and sleds, children's; carriages and wagons; corsets; cutlery and edge tools; dentistry, mechanical; dentists' materials; electroplating; fertilizers; fruits and vegetables, canned and preserved; furnishing goods, men's; hairwork; housefurnishing goods; instruments, professional and scientific; iron and steel; iron railing, wrought; iron work, architectural and ornamental; kindling wood; leather, curried; leather, tanned; lime; models and patterns; oil, castor; oil, linseed; paints; perfumery and cosmetics; pumps; refrigerators; saws; sewing machines and attachments; show-cases; soap and candles; stencils and brands; stereotyping and electrotyping; stone- and earthen-ware; surgical appliances; trunks and valises; umbrellas and canes; varnish; vinegar; wheelbarrows; window blinds and shades; wooden ware; woolen goods.

From the foregoing table it appears that the average capital of all establishments is $12,577 92; that the average wages of all hands employed is $335 48 per annum; and that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is $20,336 16.